### **APPENDIX D**

### Part 17 of 22

Wetland Delineation Data Sheets and Site Photographs

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: _	Ashland	;	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW	Section, Town	nship, Range: 04	45N-002W-0 <sup>2</sup>	1
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests I				
Soil Map Unit Name: Chabeneau-Annalal				
Are climatic / hydrologic conditions on the site typical				
Are Vegetation, Soil, or Hydrology _				
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, e	xplain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locatio	ns, transects,	important features, etc.
Hydric Soil Present? Yes  Wetland Hydrology Present? Yes	✓         No         within           ✓         No         If yes,		Yes ✓	_ No
Remarks: (Explain alternative procedures here or The wetland is an alder thicket loo	in a separate report.)	tent stream	The wetland	d is adjacent to a dirt
road, and is surrounded by young	•			,
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required; ch			Surface Soil C	
	Water-Stained Leaves (B9)		Drainage Patte	
	Aquatic Fauna (B13)		Moss Trim Lin	
	<ul><li>Marl Deposits (B15)</li><li>Hydrogen Sulfide Odor (C1)</li></ul>		Dry-Season W Crayfish Burro	
	<ul><li> Oxidized Rhizospheres on Live</li></ul>	vina Roots (C3)		ible on Aerial Imagery (C9)
	Presence of Reduced Iron (C			essed Plants (D1)
	Recent Iron Reduction in Tille		✓ Geomorphic P	
	Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			✓ FAC-Neutral T	est (D5)
Field Observations:				
	Depth (inches):			
	Depth (inches): 1			
Saturation Present? Yes _ ✓ No (includes capillary fringe)	Depth (inches): 0	wetland H	ydrology Present	? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous in	spections), if avai	lable:	
Remarks:				
The hydrologic regime is seasona	•		_	
culvert under a dirt road, and the	wetland discharges wa	ater into this	stream. The	wetland receives
runoff from the dirt road.				

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants				Sampling Point: wasc045s_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Populus tremuloides</u>	5.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:5.0 (A)
2. <u>Fraxinus nigra</u>	5.0	Y	<b>FACW</b>	Total Number of Dominant
3				Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_10.0	= Total Cov	ver	OBL species <u>64.0</u> x 1 = <u>64.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>82.0</u> x 2 = <u>164.0</u>
1. <u>Alnus incana</u>	_60.0	<u>Y</u>	<u>FACW</u>	FAC species 9.0 x 3 = 27.0
2. <u>Cornus alba</u>	5.0	N	<u>FACW</u>	FACU species x 4 = UPL species x 5 = 0.0
3				Column Totals: 155.0 (A) 255.0 (B)
4				
5				Prevalence Index = B/A =1.6
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	65.0	= Total Cov	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting)
1. Carex retrorsa	30.0	Y	OBL	data in Remarks or on a separate sheet)
2. Carex crinita	20.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Glyceria grandis</u>	10.0	N	OBL	The disease of budging of lead weather distributions
4. <u>Impatiens capensis</u>	5.0	N	<u>FACW</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Poa palustris</u>	5.0	<u>N</u>	<u>FACW</u>	Definitions of Vegetation Strata:
6. <u>Arisaema triphyllum</u>	2.0	N	FAC	
7. <u>Galium asprellum</u>	2.0	N	OBL	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Solidago gigantea</u>	2.0	N	<b>FACW</b>	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Scutellaria lateriflora</u>	2.0	N	OBL	and greater than or equal to 3.28 ft (1 m) tall.
10. Rubus idaeus	2.0	N	FAC	Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12	_			Woody vines – All woody vines greater than 3.28 ft in
	80.0	= Total Cov	ver	height.
Woody Vine Stratum (Plot size:)				
1	_			
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Cov	ver	riesent: ies v No
Remarks: (Include photo numbers here or on a separate	sheet.)			
The wetland is dominated by Alnus inc	ana, and	d is den	sely veg	getated throughout and along the
stream banks.				

US Army Corps of Engineers

SOIL Sampling Point: wasc045s\_w

		-	th needed to docun			or confirm	the absence of in	dicators.)
Depth (inches)	Matrix Color (moist)	<u>«</u>	Color (moist)	<u>Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	2 100					MML	
-								
					-			
	-							
<sup>1</sup> Type: C=C Hydric Soil		epletion, RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalue Below	v Surface	(S8) ( <b>I RE</b>	? R		(A10) (LRR K, L, MLRA 149B)
·	pipedon (A2)		MLRA 149B)		(00) (211)	,		ie Redox (A16) ( <b>LRR K, L, R</b> )
	listic (A3)		Thin Dark Surfa				-	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) ed Layers (A5)		Loamy Mucky N			, L)		ce (S7) ( <b>LRR K, L</b> ) Below Surface (S8) ( <b>LRR K, L</b> )
	ed Below Dark Surf	ace (A11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)					Surface (S9) (LRR K, L)
Thick D	ark Surface (A12)		Redox Dark Sur	face (F6)			Iron-Manga	nese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S		7)			Toodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ons (F8)				lic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Material (F21)
	d Matrix (S6)							w Dark Surface (TF12)
Dark Su	urface (S7) (LRR R	R, MLRA 149	3)				Other (Expl	ain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic vege	etation and w	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observe		, ,	· ·				
Туре: <u>сс</u>	obble							
	nches): <u>6</u>						Hydric Soil Pres	sent? Yes <u>√</u> No
Remarks:	مم مطاعم من امان	امام ما ما			ما میشد		ما ما ما ما	
Solis col	uid not be sa	ımpiea a	eeper due to a	restric	ctive la	yer or c	oddie.	



wasc045s\_w\_E



wasc045s\_w\_S

### Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW	
File #: wasc045	Date of visit(s): 10/02/2019	
Location: PLSS: 045N-002W-01	Ecological Landsca North Central Forest	ape:
Lat: 46.408577 Long: -90.555056	Watershed: LS13, Tyler Forks	
County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: T3/5K	
5543B Chabeneau-Annalake complex, 5373A Cathro muck, drainageway	Wetland Type(s): PSS - Alder thicl	ket
Field Verified:		
Series not verified. Soils were a mucky mineral above a restrictive layer of cobble.	Wetland Size:	Wetland Area Impacted
abovo a roomonvo layor or ocoberor	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is seasonally saturated, with discharge hydrology. The wetland receives runoff from the adjacent dirt road, but discharges water into the stream it is associated with.	Alder thicket dor	minated by Alnus incana, with ayer dominated by Carex

SITE MAP		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3			
-	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Υ	Υ	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N.	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP	11		Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	ı	<u>'</u>	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	Υ	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST	Y	Y	Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N.	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N N	Natural land cover in 100m buffer area < 50%
GW	IN	IN	Groundwater Processes
$\vdash$			
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	Υ	Υ	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-10: an intermittent stream flows through the wetland, and as such some aquatic habitat is provided ST-2: water in the wetland travels to the stream, where it is then carried away as discharge WQ-5: banks have heavy shrub and herbaceous vegetation cover Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian Υ Deer Amphibians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PSS	Uncommon
Fraxinus nigra			PSS	Uncommon
Alnus incana			PSS	Abundant
Cornus alba			PSS	Uncommon
Carex retrorsa			PSS	Common
Carex crinita			PSS	Common
Glyceria grandis			PSS	Common
Impatiens capensis			PSS	Uncommon
Poa palustris			PSS	Uncommon
Arisaema triphyllum			PSS	Uncommon
Galium asprellum			PSS	Uncommon
Solidago gigantea			PSS	Uncommon
Scutellaria lateriflora			PSS	Uncommon
Rubus idaeus			PSS	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has been heavily disturbed by historic activity and its current roadside location, and as such species diversity is somewhat low.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		Н	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	U	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	Х		M	С	Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
		V			Removal of tree or shrub strata – logging,
		Х	Н		unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland has been impacted by historic logging, and is disturbed by the adjacent dirt road.			

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection		<b>✓</b>			
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection			<b>√</b>		
Groundwater Processes			<b>√</b>		

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, disturbed and logged in the past
Human Use Values	Hunting potential
Wildlife Habitat	Potential habitat provided due to the present strata and associated stream
Fish and Aquatic Life Habitat	Intermittent stream provides some habitat in riparian zone
Shoreline Protection	Associated with an intermittent stream that receives some runoff from the nearby road
Flood and Stormwater Storage	Stores runoff from the adjacent road, but discharges water into stream
Water Quality Protection	Associated with a stream, densely vegetated banks
Groundwater Processes	Groundwater discharge and mucky organic soils

### **Section 4: Project Impact Assessment**

## Brief Project Description Enbridge Line 5 pipeline route analysis.

### **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasc045_u
Investigator(s): BRG/JSW	Section, Towns	hip, Range: <u>045N-002W-(</u>	01
Landform (hillslope, terrace, etc.): Head slope	Local relief (conca	ve, convex, none): Convex	Slope (%): <u>3-7%</u>
Subregion (LRR or MLRA): Northcentral Forests La	t: 46.408633	Long: -90.554996	Datum: WGS84
Soil Map Unit Name: Chabeneau-Annalake			
Are climatic / hydrologic conditions on the site typical	for this time of year? Yes✓_	No (If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes No
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS - Attach site r	nap showing sampling p	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes   ✓	No Is the Sa	ampled Area	
		-	No <u></u>
		otional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)		
The upland is a young disturbed for	est adjacent to a dirt r	oad.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; chec	ck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	_ Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	·	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	Oxidized Rhizospheres on Livir		isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutra	i rest (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):		nt? Yes No✓_
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous insp	ections), if available:	
Remarks:			
No indicators of wetland hydrology	were observed.		

**VEGETATION** – Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1. <u>Abies balsamea</u>			<u>FAC</u>	That Are OBL, FACW, or FAC:3 (A)
2. <u>Populus tremuloides</u>			<u>FAC</u>	Total Number of Dominant
3. <u>Prunus serotina</u>	10.0_	N	<u>FACU</u>	Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 60.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species10 x 2 =20
1. Ilex verticillata	10.0	Y	<b>FACW</b>	FAC species75 x 3 =225
2. Abies balsamea	10.0	Y	FAC	FACU species <u>35</u> x 4 = <u>140</u>
3. <u>Acer rubrum</u>	5.0	Ν	FAC	UPL species 0 x 5 = 0
4. Amelanchier sp.				Column Totals:120 (A)385 (B)
5				Prevalence Index = B/A = 3.21
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
·		= Total Co	vor	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )		= 10(a) 00	vei	3 - Prevalence Index is ≤3.0¹
1. Diervilla lonicera	50.0	Υ	NI	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>		Y	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Mitchella repens</u>		N	FACU	
4. Carex pedunculata			FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Abies balsamea		N	FAC	
				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10			·	Herb – All herbaceous (non-woody) plants, regardless
11			·	of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	vor	height.
Woody Vine Stratum (Plot size:30')		= 10tal C0	VCI	
1				
2				
3			·	Hydrophytic Vegetation
4				Present? Yes/ No
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
The upland is a young disturbed forest of Diervilla Ionicera.	dominat	ted by A	∖bies ba	Ilsamea and a thick herbaceous layer

Sampling Point: wasc045\_u

SOIL Sampling Point: wasc045\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	findicators.)
Depth	Matrix			x Features		1 2	T	Remarks
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	_Loc <sup>2</sup>	Texture	Remarks
0-8	7.5YR 3/3	100					SIL	
		· ——		·				
		. ——— .		. ———				
				. <u> </u>				
		<del></del> .						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil			Debarelya Balay	Curtooo	(CO) (LDI	) B		or Problematic Hydric Soils <sup>3</sup> :
Histosol	pipedon (A2)	•	Polyvalue Belov		(36) (LKI	κκ,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> ) airie Redox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)		Thin Dark Surfa	ice (S9) ( <b>L</b>	RR R, MI	RA 149B)	5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky N			, L)		face (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	o (A11)	Loamy Gleyed I Depleted Matrix		2)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
	ark Surface (A12)	e (ATT)	Depleted Matrix Redox Dark Su					iganese Masses (F12) (LRR K, L, R)
	/lucky Mineral (S1)		Depleted Dark S					t Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				oodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)							ent Material (F21)
	l Matrix (S6) Irface (S7) ( <b>LRR R, I</b>	/II DA 1/0D	١					allow Dark Surface (TF12) xplain in Remarks)
Daik Su	illace (37) (LKK K, I	ILNA 1430	)				Other (L)	xpiaiii iii Keinaiks)
	f hydrophytic vegeta		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Туре: <u>сс</u>								
	ches): <u>8</u>						Hydric Soil Pi	resent? Yes No/_
Remarks:	o opil indicator	wa 1110 wa	المانيين لم ما ما ما ما ما	امند مند	مام منا الما			
No nyan	c soil indicato	is were	observed will	iin eigi	nt inch	es.		



wasc045\_u\_E



wasc045\_u\_S

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township,	Range: <u>045N-002W-</u>	01
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.40			
Soil Map Unit Name: Cathro muck, drainageway, C			
Are climatic / hydrologic conditions on the site typical for this time			
Are Vegetation, soil, or Hydrology signific			
Are Vegetation, Soil, or Hydrology natura		If needed, explain any answ	,
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poir	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Samp		
Hydric Soil Present? Yes ✓ No	within a Ma	etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No	If yes, option	nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate	e report.)		
The wetland is a fresh wet meadow/alder t	•	djaceni io a diri roa	ad. The area has been
disturbed and is surrounded by young fore	St.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	pply)	Surface Soi	
	ained Leaves (B9)	Drainage Pa	
High Water Table (A2) Aquatic F		Moss Trim I	
Saturation (A3) Marl Dep			Water Table (C2)
	n Sulfide Odor (C1)	Crayfish Bu	
	Rhizospheres on Living F		Visible on Aerial Imagery (C9)
	e of Reduced Iron (C4)		Stressed Plants (D1)
	on Reduction in Tilled Sol k Surface (C7)		
	к Surface (С7) кplain in Remarks)	Shallow Aqu	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(pidili ili Nelliaiko)	Microtopogi	
Field Observations:		<u></u>	in rest (D3)
Surface Water Present? Yes No _✓ Depth (ii	nches):		
Water Table Present? Yes No _✓ Depth (ii			
Saturation Present? Yes No _✓ Depth (ii	-	Wetland Hydrology Prese	ent? Yes <u>√</u> No
(includes capillary fringe)		,	
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspect	ions), if available:	
Remarks:			
The hydrologic regime is seasonally satura	-		vetland receives runoff
from the adjacent dirt road and the intersed	cting unpaved tra	il.	

### **VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants				Sampling Point: wasc044e_w
Tree Charter (Diet sine)	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30') 1		Species?	·	Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2				Total Number of Dominant Species Across All Strata: 4.0 (B)
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Cov	/er	OBL species <u>50.0</u> x 1 = <u>50.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>47.0</u> x 2 = <u>94.0</u>
1. Salix discolor	5.0	Υ	FACW	FAC species <u>0.0</u> x 3 = <u>0.0</u>
2				FACU species10.0 x 4 =40.0
3				UPL species x 5 =
				Column Totals: <u>107.0</u> (A) <u>184.0</u> (B)
4				Prevalence Index = B/A =1.7
6				Hydrophytic Vegetation Indicators:
7				
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. Phalaris arundinacea	30.0	Υ	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Scirpus hattorianus	20.0	Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Calamagrostis canadensis	00.0	Υ	OBL	
4. Solidago gigantea		N	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Plantago major	<b>F</b> 0	N	FACU	
6. Symphyotrichum puniceum		N	OBL	Definitions of Vegetation Strata:
7. Taraxacum officinale		N	FACU	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Eutrochium maculatum		N	OBL	
9. Onoclea sensibilis	2.0	N	FACW	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			IAOW	
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
201	102.0	= Total Cov	/er	
Woody Vine Stratum (Plot size:)				
1,				
2				
3				Hydrophytic
4				Vegetation   Present?
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate	sheet.)	d by Dh	olorio o	rundinges and Colomographic
The fresh wet meadow component is d canadensis, and is partially mowed due				
barragerisis, aria is partially moved due		Scoung	an unp	avoa iiaii.

US Army Corps of Engineers

SOIL Sampling Point: wasc044e\_w

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		1 2	Todon	Description
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	_Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-8	10YR 2/1	100					_MMI	
		. <u></u>						
	-							
		. <del></del> .						
		· · · · · · · · · · · · · · · · · · ·						_
								-
	-							
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators for	r Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RRR MI	RA 149R)		airie Redox (A16) ( <b>LRR K, L, R</b> ) cky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)	•	✓ Loamy Mucky N					face (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed I		)		Polyvalue	Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12)  Mucky Mineral (S1)	;	Redox Dark Sulpote Depleted Dark States					ganese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		")			odic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)	•		( - /				ent Material (F21)
	l Matrix (S6)							llow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILRA 149B	)				Other (Ex	plain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent. unless	disturbed	or problematic.	
	Layer (if observed):		, , , , , , , , , , , , , , , , , , , ,		.,			
Туре: <u>сс</u>	bble							
Depth (in	ches): <u>8</u>						Hydric Soil Pr	esent? Yes/ No
Remarks:	, <u>-</u>							
Loamy n	nucky mineral	soil obs	erved in the ι	upper p	orofile.	Could i	not dig past	8 inches due to
restrictiv	e cobble layer							



wasc044e\_w\_E



wasc044e\_w\_N

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	p, Range: <u>045N-002W</u>	V-01
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Cathro muck, drainagewa			
Are climatic / hydrologic conditions on the site typical for th			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology		(If needed, explain any ans	
SUMMARY OF FINDINGS – Attach site map	showing sampling po	int locations, transed	cts, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ 1	10	npled Area	
Hydric Soil Present? Yes ↑	within a M	Vetland? Yes	✓ No
Wetland Hydrology Present? Yes ✓ 1		onal Wetland Site ID:	_
Remarks: (Explain alternative procedures here or in a se	eparate report.)	leasted near a dir	t road and intersected
The wetland is an alder thicket/fresh w	et meadow complex	. IOCateu near a uii	1 10au anu miersecieu
by an unpaved trail.			
HYDROLOGY	_		
Wetland Hydrology Indicators:			dicators (minimum of two required)
Primary Indicators (minimum of one is required; check all		Surface S	
	ater-Stained Leaves (B9)		Patterns (B10)
	uatic Fauna (B13)	Moss Trin	
	url Deposits (B15)		on Water Table (C2)
	drogen Sulfide Odor (C1)		Burrows (C8)
	idized Rhizospheres on Living		n Visible on Aerial Imagery (C9)
	esence of Reduced Iron (C4)		or Stressed Plants (D1)
	cent Iron Reduction in Tilled S		hic Position (D2)
<u> </u>	in Muck Surface (C7)	Shallow A	
	ner (Explain in Remarks)		ographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neut	tral Test (D5)
	epth (inches):		
	epth (inches): 4		
	epth (inches): 6	Wetland Hydrology Pres	sent? Yes ✓ No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspec	ctions), if available:	
Remarks:			
The hydrologic regime is seasonally sa	aturated, with rechar	ge hydrology. The	wetland receives runott
from the nearby dirt road.			

### **VEGETATION** – Use scientific names of plants.

<b>'EGETATION</b> – Use scientific names of plants.				Sampling Point: wasc044s_w
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Ulmus americana</u>	10.0	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: 6.0 (A)
2. <i>Fraxinus nigra</i> 3				Total Number of Dominant Species Across All Strata: 7.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 85.71428571428571 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
Conline (Church Churchum (Diet sine) 15'	15.0	= Total Cov	/er	OBL species 39.0 x1 = 39.0 FACW species 99.0 x2 = 198.0
Sapling/Shrub Stratum (Plot size:15' )	CO 0	V	EA C) A /	FAC species $20.0 \times 3 = 60.0$
1. Alnus incana			FACW	FACU species 10.0 x 4 = 40.0
2. Acer rubrum			FAC.	UPL species x 5 =0.0
3. <u>Salix bebbiana</u>				Column Totals: <u>168.0</u> (A) <u>337.0</u> (B)
4 5				Prevalence Index = B/A =
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )				3 - Prevalence Index is ≤3.0¹
1. Glyceria striata	30.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex intumescens		Y	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex gracillima</u>		Υ	FACU	
4. <u>Rubus idaeus</u>		Υ	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Epilobium leptophyllum		N	OBL	Definitions of Vegetation Strata:
6. <u>Poa palustris</u>	5.0	N	FACW	
7. <u>Abies balsamea</u>		N	FAC	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Equisetum sylvaticum</u>		N	FACW	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Symphyotrichum puniceum</u>		N	OBL	and greater than or equal to 3.28 ft (1 m) tall.
10. <u>Galium asprellum</u>	2.0	N	OBL	Herb – All herbaceous (non-woody) plants, regardless
11. <u>Dryopteris carthusiana</u>	2.0	N	FACW	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	83.0	= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s	sheet.)	·	·	

The alder thicket is dominated by Alnus incana and Glyceria striata, and is densely vegetated. A small amount of vegetation has been moved as the wetland intersects a two-track trail.

SOIL Sampling Point: wasc044s\_w

Profile Des	cription: (Describe	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix				x Features			<b>-</b> .	D 1
(inches)	Color (moist)	<u>%</u>	Color (r	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/1	100						_MML	
4-18	7.5YR 4/3	_90_	<u>5YR</u>	5/8	_10_	C	_M_	SIL	
<sup>1</sup> Type: C=C	concentration, D=Depl	letion. RM	=Reduced I	Matrix. MS	S=Masked	Sand Gr	ains.	Location: PL=	=Pore Lining, M=Matrix.
Hydric Soil									roblematic Hydric Soils <sup>3</sup> :
Histoso					w Surface	(S8) ( <b>LR</b>	R R,		(A10) ( <b>LRR K, L, MLRA 149B</b> )
	pipedon (A2) istic (A3)			RA 149B) Dark Surfa		RRR M	LRA 149B)		e Redox (A16) ( <b>LRR K, L, R</b> ) Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)				/lineral (F1				e (S7) ( <b>LRR K, L</b> )
	d Layers (A5)			-	Matrix (F2	)			elow Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)		ted Matrix					urface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F	7)		-	nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)			Depress		.,			ic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)								Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149I	3)						w Dark Surface (TF12) ain in Remarks)
							a all a troub and		,
	of hydrophytic vegetat  Layer (if observed):		etiana nyara	ology mus	t be prese	ent, unies	s disturbed (	or problematic.	
Type:									
Depth (in	ches):							Hydric Soil Pres	ent? Yes <u>√</u> No
Remarks:									
Dark mu	cky loam over	reddis	h silty lo	oam.					



wasc044s\_w\_N



wasc044s\_w\_W

### Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW			
File #: wasc044	Date of visit(s): 10/02/2019			
Location: PLSS: 045N-002W-01	Ecological Landsca North Central Forest	pe:		
Lat: 46.409552 Long: -90.551111	Watershed: LS13, Tyler Forks			
County: Ashland Town/City/Village: Morse town				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: T3K, T3/5K			
5373A Cathro muck, drainageway, 0 to 1 percent slopes 5543B Chabeneau-Annalake complex, 0 to 6 percent slopes	Wetland Type(s): PSS/PEM complex - Alder thicket/Fresh wet meadow			
Field Verified:				
Series not verified. Soils were a dark mucky loam over a silty loam in the shrub component, and a loamy mucky mineral	Wetland Size: 1.44	Wetland Area Impacted 1.44		
over a restrictive cobble layer in the emergent component.	Vegetation: Plant Community D	Description(s):		
Hydrology: The hydrologic regime of the wetland is seasonally saturated, with recharge hydrology. The wetland receives runoff from the adjacent dirt road.	The alder thicket shrub component of the wetland is dominated by Alnus incana and Glyceria striata, and the fresh wet meadow component is dominated by Calamagrostis canadensis and Phalaris arundinacea, and is highly disturbed.			

# SITE MAP

### SECTION 1: Functional Value Assessment

1	1 N Y Used for recreation (hunting, birding, hiking, etc.). List Hunting			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N Visually or physically accessible to public 4 N N N Asshetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 Y Y List: NORTH COUNTRY NATL SCENIC TRAIL 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 N Supports or provides habitat for endangered, threatened or special concern species 8 N N Supports or provides habitat 1-10 acres 9 N WH Wildlife Habitat 1 Y Y Wetland and contiguous habitat 1-10 acres 1 Y Y Wetland and contiguous habitat 1-10 acres 2 Y Y Y 3 or more strata present (1-10% cover) 3 N N Within or adjacent to acres 4 Y Y 100 m buffer – natural land cover \$50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invenebrates 11 N N Seasonally exposed mudiflast present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 1 N N Provides habitat for amphibians and aquatic invenebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Y Standing water provides habitat for amphibians and aquatic invenebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Y Standing water provides habitat for amphibians and aquatic invenebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Y Standing water provides habitat for amphibians and aquatic invenebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Perbetage of a stream, lake, pond or open water area (-1 a	2 N N Used for educational or scientific purposes 3 N N V Susuly or physically accessible to public 4 N N N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 Y Y In or adjacent to RED FLAG areas List: NORTH COUNTRY NAT'L SCENIC TRAIL 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 1 Y Y Y Y Wildliffe Habitat 2 Y Y Y 30 or more strata present ≥10 SeCN or birds listed wildlife habitat area 3 N N Wilthin or adjacent to habitat corndor or established wildlife habitat area 4 Y Y Y 100 m buffer – natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.) 7 Y Y Supports or provides habitat to SCCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat score in the area (urban, agricultural, etc.) 17 Fish and Aquatic Life Habitat 1 N N Seasonally exposed mudflats present 1 N N V Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N Seasonally exposed mudflats prioring the provides habitat for amphibians and aquatic invertebrates 1 N N Standing water provides habitat for amphibians and aquatic inventebrates 1 N N Potential for hold score in the	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3 N N N   Visually or physically accessible to public	N N N Seath Company Physically accessible to public   N N N Ashertically placesing due to diversity of habitat types, tack of pollution or degradation	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3 N N N   Visually or physically accessible to public	3 N N N   Visually or physically accessible to public   4 N N   N A   Asethetically pleasing due to diversity of habitat types, tack of pollution or degradation   5 Y Y List NORTH COUNTRY NAT'L SCENIC TRAIL   6 N N   Supports or provides habitat for endangered, threatened or special concern species   7	2	N	N	Used for educational or scientific purposes
A	A	3	N	N	
S	S	4			
Section   Sec	N				
Fig.   N   Supports or provides habitat for endangered, threatened or special concern species   T   N   Widtife Habitat	Feat	5	Υ	Y	
WH	WH   Wildlife Habitat	6	NI	NI	
WH	Wildlife Habitat		IN	IN	
1	1				
2	2		V	V	
3 N N N   Within or adjacent to habitat corridor or established wildlife habitat area	3				
4 Y Y 100 m buffer — natural land cover >50%(south) 75% (north) intact  5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)  7 Y Y plans 8 N Y Part of a large habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 NA Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Impervious surfaces cover >10% of land surface within the watershed 4 N N Potential for hold >10% of the runofif from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Potential to hold >10% of the runofif from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Potential to hold >10% of the runofif from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Seriose soulistents storage of storm and floodwater based on previous section 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as	4				
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7         Y         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         Y         Part of a large habitat block that supports area sensitive species           9         N         N         Ephemeral pond with water present ≥ 45 days           10         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           11         N         N         Seasonally exposed mudflats present           12         N         N         Provides habitat scarce in the area (urban, agricultural, etc.)           FA         Fish and Aquatic Life Habitat           1         N         N         Wetland is connected or contiguous with perennial stream or lake           2         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Natural Heritage Inventory (NHI) listed aquatic species within aquatic system           4         N         Y         Vegetation is inundated in spring           SP         Shoreline Protection           1         NA         NA         Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable           2         NA         NA         Potential for erosion due to wind fetch, waves, heavy boat traff	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				
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## Section 1 Comments (Refer to Section 1 numbers) HU-4: the area is heavily disturbed and has been historically logged HU-5: the noted RED FLAG area is present in the buffer area of the wetland, but likely does not have any significant relation to the area ST-5: collects runoff from the adjacent dirt road. Water has a somewhat channelized flow along the mowed unpaved trail intersecting the wetland, but this is not a significant discharge or channelized component Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian, mammals, amphibians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Ulmus americana			PSS	Common
Fraxinus nigra			PSS	Uncommon
Alnus incana			PSS	Abundant
Acer rubrum			PSS	Uncommon
Salix bebbiana			PSS	Uncommon
Glyceria striata			PSS	Common
Carex intumescens			PSS	Common
Carex gracillima			PSS	Common
Rubus idaeus			PSS	Common
Epilobium leptophyllum			PSS	Uncommon
Poa palustris			PSS	Uncommon
Abies balsamea	balsam fir		PSS	Uncommon
Equisetum sylvaticum			PSS	Uncommon
Symphyotrichum puniceum			PSS, PEM	Uncommon
Galium asprellum			PSS	Uncommon
Dryopteris carthusiana			PSS	Uncommon
Salix discolor			PEM	Uncommon
Phalaris arundinacea			PEM	Common
Scirpus hattorianus			PEM	Common
Calamagrostis canadensis			PEM	Common
Solidago gigantea			PEM	Common
Plantago major			PEM	Uncommon
Taraxacum officinale			PEM	Uncommon
Eutrochium maculatum			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has been heavily disturbed by historic activity and its current roadside location, and as such species diversity is low and invasive/weedy species are present. The emergent component in the trail is more disturbed and has higher invasive species cover than the shrub component.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		Н	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
V	V	V			Removal of tree or shrub strata – logging,
X	X	X	Н		unprescribed fire
Х	Х		Н	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland has been impacted by historic logging and human land use, and is continually disturbed by mowing and
the associated dirt road.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE						
Floristic Integrity	Low diversity, disturbed and logged						
Human Use Values	No clear uses						
Wildlife Habitat	Multiple habitat structures provide habitat potential for a variety of species						
Fish and Aquatic Life Habitat	Some habitat provided after rain events						
Shoreline Protection	N/A						
Flood and Stormwater Storage	Stores runoff from the adjacent road and intersecting unpaved trail						
Water Quality Protection	See above						
Groundwater Processes	Groundwater recharge						

### **Section 4: Project Impact Assessment**

## Brief Project Description Enbridge Line 5 pipeline route analysis.

### **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland		Sampling Date: <u>2019-10-02</u>
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW	Section	on, Township, Range: 04	15N-002W-0	1
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Cathro muck, draina				
		·		
Are climatic / hydrologic conditions on the site typica				
Are Vegetation, Soil, or Hydrology _				
Are Vegetation, Soil, or Hydrology _	naturally problema	atic? (If needed, ex	xplain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sam	pling point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No <u></u> ✓	Is the Sampled Area		
	No <u>✓</u>	within a Wetland?	Yes	No <u></u>
Wetland Hydrology Present? Yes		If yes, optional Wetland	Site ID:	
Remarks: (Explain alternative procedures here or	in a separate report.)		<u> </u>	
The upland is a young disturbed for	orest adjacent to	a dirt road.		
HYDROLOGY				
Wetland Hydrology Indicators:				ors (minimum of two required)
Primary Indicators (minimum of one is required; ch			Surface Soil C	
	Water-Stained Leaves	s (B9)	Drainage Patt	
	Aquatic Fauna (B13)		Moss Trim Lir	
	Marl Deposits (B15)	· (C1)		Vater Table (C2)
	<ul><li>Hydrogen Sulfide Odd</li><li>Oxidized Rhizosphere</li></ul>		Crayfish Burro Saturation Vis	sible on Aerial Imagery (C9)
	Presence of Reduced	=		ressed Plants (D1)
	Recent Iron Reduction		✓ Geomorphic F	
	Thin Muck Surface (C		Shallow Aquit	
	Other (Explain in Ren			ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)				Test (D5)
Field Observations:				
Surface Water Present? Yes No	/ Depth (inches):			
Water Table Present? Yes No	/ Depth (inches):			
	/ Depth (inches):	Wetland H	ydrology Present	!? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorir	ng well aerial photos pre	vious inspections) if avail	lable:	
Beschibe Recorded Bata (stream gauge, monitori	ig wen, dendi priotos, pro	viodo iriopeotiorio), ir avaii	abic.	
Remarks:	-ttt-		hia a a aiti a a	but as ather
The upland's concave surface cre	•	vetiana geomorpi	nic position,	but no otner
indicators of wetland hydrology we	ere observed.			

**VEGETATION** – Use scientific names of plants.

<b>VEGETATION</b> – Use scientific names of plants				Sampling Point: wasc044_u
Tree Stratum (Plot size: 30' )	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Prunus serotina	30.0	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Abies balsamea	10.0	Υ	FAC	
3				Total Number of Dominant Species Across All Strata:  6 (B)
4.				
				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	40.0	= Total Co	over	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 5 x 2 = 10
1. Viburnum lentago	20.0_	<u>Y</u>	<u>FAC</u>	FAC species 35 x 3 = 105 FACU species 85 x 4 = 340
2. Prunus serotina	20.0	Y	<u>FACU</u>	
3. Corylus cornuta	10.0	N	<u>FACU</u>	UPL species $0$ $x = 0$ Column Totals: $125$ (A) $455$ (B)
4. <u>Alnus incana</u>	5.0	N	<b>FACW</b>	Column Totals. <u>125</u> (A) <u>455</u> (B)
5				Prevalence Index = B/A =3.64
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
51		= Total Co	over	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Diervilla Ionicera</u>	30.0	<u>Y</u>	_NL_	data in Remarks or on a separate sheet)
2. <u>Cornus alternifolia</u>	_ <u>10.0</u> _	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <i>Fragaria virginiana</i>	5.0	N	<u>FACU</u>	
4. Agrimonia striata	5.0	N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Pyrola elliptica</u>	5.0	Ν	FACU	Definitions of Vegetation Strata:
6. <u>Rubus idaeus</u>				Definitions of Vegetation Strata.
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
				at bleast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	30.0	= Total Co	over	noight.
Woody Vine Stratum (Plot size: 30')				
1				
2.				
3				Liveranhytia
				Hydrophytic Vegetation
4				Present? Yes No✓
Demandra, (Include photo purchase bereather)		= Total Co	over	
Remarks: (Include photo numbers here or on a separate The upland is a young disturbed forest	sneet.)	ted by y	vouna tre	ees and shrubs
The upland is a young disturbed lorest	uomina	ied by	young in	ces and sindbs.

SOIL Sampling Point: wasc044\_u

	cription: (Describe	to the dep				or confirm	the absence of ir	ndicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 3/3	100	Color (molot)		Турс		L	Nomano
12-18		100					L	
12 10	10111 1/0	100						
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	=Masked	Sand Gr	ains.		=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Below	, Surface	(S8) (I <b>R</b> I	2 R		Problematic Hydric Soils <sup>3</sup> : (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	Odnacc	(00) (LIVI	<b>、                                    </b>		rie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surface Loamy Mucky M					y Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed N			, ∟)		Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12)  Mucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)			anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
Sandy C	Gleyed Matrix (S4)		Redox Depressi		- /		Mesic Spoo	dic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5) I Matrix (S6)							t Material (F21) ow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149E	3)					lain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unles	disturbed	or problematic.	
	Layer (if observed):							
Type:							Undria Sail Bras	nont? Von No /
	ches):						Hydric Soil Pres	sent? Yes No/_
Remarks:	c soil indicator	s obse	rved.					



wasc044\_u\_E



wasc044\_u\_S

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	t City/0	County: Ashland		Sampling Date: 2019-10-19
	•				_ Sampling Point: wasd036f_w
Investigator(s): MAL/AGG					
					Slope (%): <u>0-2%</u>
					Datum: WGS84
					ation:
Are climatic / hydrologic conditi		•			
					resent? Yes _ ✓ No
Are Vegetation, Soil	, or Hydrology	naturally problem	atic? (If needed,	explain any answers	s in Remarks.)
SUMMARY OF FINDING	S - Attach sit	te map showing san	npling point locati	ions, transects,	important features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present?	Yes	✓ No ✓ No	Is the Sampled Area within a Wetland?	Yes <u>√</u>	
Wetland Hydrology Present?  Remarks: (Explain alternative			If yes, optional Wetlar	nd Site ID:	
The forested wetland road activity.	d is located a	along an access re	oad. The area is	disturbed by	logging and access
HYDROLOGY					
Wetland Hydrology Indicato				· · · · · · · · · · · · · · · · · · ·	tors (minimum of two required)
Primary Indicators (minimum					
Surface Water (A1)		Water-Stained Leave		Drainage Patt	
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lir	
Saturation (A3)		Marl Deposits (B15)		· · · · · · · · · · · · · · · · · · ·	Vater Table (C2)
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide Oc Oxidized Rhizospher		Crayfish Burro	sible on Aerial Imagery (C9)
Orift Deposits (B3)		Presence of Reduce			ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction	` '	✓ Geomorphic F	
Iron Deposits (B5)		Thin Muck Surface (		✓ Shallow Aquit	
Inundation Visible on Aer		Other (Explain in Re		Microtopograp	
Sparsely Vegetated Cond			,	FAC-Neutral	
Field Observations:					
Surface Water Present?	Yes No _	✓ Depth (inches):			
Water Table Present?	Yes No _	✓ Depth (inches):			
Saturation Present?	Yes No _	✓ Depth (inches):	Wetland	Hydrology Present	t? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stre	am gauge, monitor	ring well, aerial photos, pre	evious inspections), if a	/ailable:	
,	3 0 7		, ,,		
The feature is seaso	onally saturate	ed and receives r	unoff from the n	nowed hay fie	ld to the south.

**VEGETATION** – Use scientific names of plants.

<b>VEGETATION</b> – Use scientific names of plants				Sampling Point: wasd036f_w
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides	50.0	Υ	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 5.0 (A)
2. <u>Abies balsamea</u>			FAC	
3				Total Number of Dominant Species Across All Strata: 5.0 (B)
4		_		Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
	60.0			OBL species
Sapling/Shrub Stratum (Plot size: 15' )	00.0	_ 10101 00	,,,,,	FACW species 45.0 x 2 = 90.0
1. Alnus incana	20.0	V	EVC/V	FAC species 85.0 x 3 = 255.0
				FACU species 0.0 x 4 = 0.0
2				UPL species x 5 =0.0
3				Column Totals: <u>165.0</u> (A) <u>380.0</u> (B)
4				5 1 1 50 22
5				Prevalence Index = B/A =2.3
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20.0		over	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹   4.  3 - Prevalence Index is ≤3.0¹   4.  4.  4.  4.  4.  4.  4.  4.
1. Rhamnus cathartica	25.0	Y	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Glyceria striata	15.0	Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Solidago gigantea</u>		Υ	FACW	
4. Scirpus cyperinus		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Equisetum pratense	400	N	FACW	
6. Calamagrostis canadensis			OBL	Definitions of Vegetation Strata:
· ·				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	85.0	= Total Co	over	neight.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
T		= Total Co		Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate		= 10(a) C(	over	
The vegetation is dominated by quakin	a aspen	. speck	ded alde	r. and weedy hydrophytic herbs.
, quantities and a second section of the section of the second section of the section o	9	,		.,

SOIL Sampling Point: wasd036f\_w

Profile Description: (Describe to the de	-			or confirm	the absence of	indicators.)
Depth Matrix (inches) Color (moist) %	Color (moist)	<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 10YR 2/1 100	<u>Color (moist)</u>	70	Турс	LOC	SL	Kemans
<u> </u>					SL _	
	-					
1						
<sup>1</sup> Type: C=Concentration, D=Depletion, RI <b>Hydric Soil Indicators:</b>	M=Reduced Matrix, MS	=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Polyvalue Belov	v Surface	(S8) ( <b>LRF</b>	R.		k (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	MLRA 149B)		()(	,		irie Redox (A16) (LRR K, L, R)
Black Histic (A3)	Thin Dark Surfa					ky Peat or Peat (S3) (LRR K, L, R)
<ul><li>Hydrogen Sulfide (A4)</li><li>Stratified Layers (A5)</li></ul>	Loamy Mucky M Loamy Gleyed M			, L)		ace (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Depleted Matrix		,			Surface (S9) (LRR K, L)
Thick Dark Surface (A12)	Redox Dark Sur					ganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)	Depleted Dark S		7)			Floodplain Soils (F19) (MLRA 149B)
<ul><li>Sandy Gleyed Matrix (S4)</li><li>Sandy Redox (S5)</li></ul>	Redox Depressi	ons (F8)				odic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) nt Material (F21)
Sandy Redox (S5) Stripped Matrix (S6)						low Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149	<b>9</b> B)					plain in Remarks)
<sup>3</sup> Indicators of hydrophytic vegetation and v	uotland budralagy mus	t ha proce	nt unloce	disturbed	or problematic	
Restrictive Layer (if observed):	vetiand hydrology mus	t be prese	ini, uniess	aisturbea	Topioblematic.	
Type: Cobble						
Depth (inches): 6					Hydric Soil Pre	esent? Yes <u>√</u> No
Remarks:						
Unable to dig past the initial	six inches of so	il. Soil	s are a	assume	d hydric bas	sed on the landscape
position and dominant veget						
muck).						



wasd036f\_w\_S



wasd036f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/AGG		
File #: wasd036	Date of visit(s): 10/19/2019		
Location: PLSS: 045N-002W-01	Ecological Landsca North Central Forest	ape:	
Lat: 46.409259 Long: -90.550021  County: Ashland Town/City/Village: Morse town	Watershed: LS13 Tyler Forks		
SITE DESCRIPTION			
Soils: Mapped Type(s): 5373A, 815A, 5543B, Cathro muck, drainageway, 0 to 1 percent slopes, Wormet sandy loam, 0 to 3 percent slopes, Chabeneau-Annalake complex, 0 to 6 percent slopes  Field Verified:	WWI Class: T3/5K Wetland Type(s): PFO - Hardwood Swamp		
Series not verified. Unable to dig past the initial six inches of soil. Soils are assumed hydric based on the landscape	Wetland Size:	Wetland Area Impacted 0.17	
position and dominant vegetation. Much of the wetland feature is within a hydric soil type (Cathro muck).	Vegetation:	Description(s):	
Hydrology: The feature is a seasonally saturated wetland. The area receives runoff from the connected access road and mowed hayfield.	Plant Community Description(s): The forested wetland is dominated by quaking aspen. The herbaceous layer is comprised of buckthorn and hydrophytic herbaceous species.		

SIT	E MAP	 	 	

### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Use Values: recreation, culture, education, science, natural scenic beauty   1   N   N   Used for recreation (funting, birding, hising, etc.). List:   2   N   N   Visually or physically oceasible to public   3   N   N   Visually or physically oceasible to public   4   N   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation   5   N   N   N   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation   5   N   N   N   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation   1   N   N   N   Supports or provides habitat for endangered, threatened or special concern species   1   In or adjacent to archaeological or cultural resource site   Wildiffer Habitat   Wildiffer Hab				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Susually or physically accessible to public 4 N N A Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N List 7 N N Supports or provides habitat for endangered, threatened or special concern species 7 N N Welfand and contiguous habitat or endangered, threatened or special concern species 8 N N Welfand and contiguous habitat 10 acres 9 N N Welfand and contiguous habitat >10 acres 1 N N Welfand and contiguous habitat >10 acres 2 Y Y 3 or more stratal present (-10% cover) 3 N N Within or adjacent to habitat cornidor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover \$50% (south) 75% (north) inlact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P and of a large habitat of SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P and of a large habitat to SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 9 N Y Ephermeral pond with water present > 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat scarce in the area (urban, agricultural, etc.) 113 Fish and Aquatic Life Habitat 114 N N V Setanding water provides habitat for amphibians and aquatic invertebrates 115 N N N Weltand is connected or contiguous with perennial stream or lake 116 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 117 N N N V Standing water provides habitat for amphibians and aquatic invertebrates 118 N N N N Haural Heritage Inventory (NHII) listed aquatic species within aquatic system 119 N N Storetine Protection 110 N N Storetine Protection 121 N N N Storetine Protection 122 N Y Y Standing water provides habitat for amphibians and aq	HU	Y/N	Potential	
N N N   Visually or physically accessible to public   N N N   Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation	1	N	N	
N	2	Ν	N	Used for educational or scientific purposes
S	3	Ν	N	Visually or physically accessible to public
N N   List:	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N   List:	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
WH	7			
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6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	5		N	Point or non-point source inflow
7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       N Natural land cover in 100m buffer area < 50%	6			
8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	$\overline{}$			
WQ         Water Quality Protection           1         N         N         Provides substantial storage of storm and floodwater based on previous section           2         Y         Y         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         N         N         Vegetated wetland associated with a lake or stream           5         N         N         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         N         N         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%	$\overline{}$			
1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
2 Y Y Water flow through wetland is NOT channelized  4 N N Vegetated wetland associated with a lake or stream  5 N N Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N N Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic		N	N	*
3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic	2			
4 N N Vegetated wetland associated with a lake or stream  5 N N Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N N Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N Wetland soils are organic				
5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic	-			
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic	$\overline{}$			
7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N N Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N Wetland soils are organic	$\overline{}$			
8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	$\overline{}$			
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	-			
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		IN	IN	
2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
3 N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
4 N N Wetland soils are organic				
	$\overline{}$		N	
│ 5 │ N │ N │ Wetland is within a wellhead protection area	$\overline{}$			
· · · · · · · · · · · · · · · · · · ·	5	N	N	Wetland is within a wellhead protection area

		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	servation, tracks, scat, other sign, type or habitat. hesting, inigratory,
bserved	Potential	Species/Habitat/Comments
	Υ	Tree cover provides habitat for arboreal species occupying fringe habitat.
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
bserved		
bservea	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

ST-1, WQ-2: The feature is a depression along an access road.

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Common
Abies balsamea			PFO	Uncommon
Alnus incana			PFO	Common
Rhamnus cathartica			PFO	Common
Glyceria striata			PFO	Uncommon
Solidago gigantea			PFO	Uncommon
Scirpus cyperinus			PFO	Uncommon
Equisetum pratense			PFO	Uncommon
Calamagrostis canadensis			PFO	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Floristic integrity is low due to overall low diversity and presence of common disturbance tolerant hydrophytic species. The herbaceous layer contains notable invasive cover in the form of buckthorn.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
	X		Н	С	grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х			С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, , ,

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is associated with an access road.	There is invasive species cover of buckthorn. The feature as well as
the margins have been logged historically.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Overall low diversity across three strata dominated by quaking aspen. There is some invasive species cover within the herbaceous layer.
Human Use Values	Not accessible to the public or used for recreation or research.
Wildlife Habitat	The feature is rather small, linear, and contains minimal plant species.
Fish and Aquatic Life Habitat	The feature likely occasionally supports standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is likely not capable of holding substantial quantities of water due to the size and location of the wetland.
Water Quality Protection	The feature is not associated with a waterbody.
Groundwater Processes	The wetland is fed by precipitation and runoff primarily with no indicators of groundwater activity.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	shland	Sampling Date: 2019-10-19
•			
Investigator(s): MAL/AGG			
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46 409080	Long: -90 550027	Datum: WGS84
Soil Map Unit Name: Chabeneau-Annalal			
Are climatic / hydrologic conditions on the site typical		•	
	·		
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sa	mpled Area	
			No <u>√</u>
		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here or			
The upland sample point occurs in	n a mowed hay field.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	eators (minimum of two required)
Primary Indicators (minimum of one is required; ch	neck all that apply)	· · · · · · · · · · · · · · · · · · ·	
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim I	
Saturation (A3)	Marl Deposits (B15)	Dry-Seasor	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	rrows (C8)
	Oxidized Rhizospheres on Living	g Roots (C3) Saturation \	/isible on Aerial Imagery (C9)
1 — · · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		c Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	· -	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	al Test (D5)
Field Observations:	/ Donth (inches)		
	Depth (inches):		
	✓ Depth (inches): ✓ Depth (inches):		nt? Yes No <u>√</u>
(includes capillary fringe)			iit: les No_v
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ections), if available:	
Remarks:			
No primary or secondary indicator	rs of wetland hydrology o	bserved.	

# **VEGETATION** – Use scientific names of plants.

T. O (D	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 0.0 (A)
2				Total Number of Dominant
3		-	·	Species Across All Strata:(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species0.0 x 2 =0.0
1.				FAC species x 3 =0.0
2				FACU species 100.0 x 4 = 400.0
3				UPL species <u>0.0</u> x 5 = <u>0.0</u>
4				Column Totals: <u>100.0</u> (A) <u>400.0</u> (B)
5				Prevalence Index = B/A =4.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
1.		= Total Co		2 - Dominance Test is >50%
Harl Otrature (Distraine F)	0.0	= 10(a) C0	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Poa pratensis	75.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Taraxacum officinale		N	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Phleum pratense			FACU	
4. Trifolium pratense			FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
•			· · ·	
5				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	vor	height.
Woody Vine Stratum (Plot size:30')	100.0	= 10(a) 00	vei	
1				
2				
3			·	Hydrophytic Vegetation
4		= Total Co		Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate		= 10tal Co	ver	
Vegetation consists primarily of Kentuc		arass ai	nd other	upland species.
, ,	,	,		

Sampling Point: wasd036\_u

SOIL Sampling Point: wasd036\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix	4 0				1 2	Taretresa	Demodus
(inches)	Color (moist)		Color (moist)	%	Type'		Texture	Remarks
0-6	10YR 3/3	100			<u>C</u>	_M_	SL	
				. ———				
				· ——				
		· <u></u> - ·		<u></u>				
	_	<del></del> -						
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
Hydric Soil			·					for Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov		(S8) ( <b>LR</b>	RR,		fluck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	,	DD D MI	DA 440B)		Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					flucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L)
	d Layers (A5)	•	Loamy Gleyed			, <b>-</b> /		lue Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix					ark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark : Redox Depress		7)			ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	•	Redox Depless	ions (Fo)				arent Material (F21)
	Matrix (S6)							hallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149B	)				Other (	(Explain in Remarks)
3Indiantors	f budranbutia vagatat	ميد لمم مما	iland budralagu mus	t ha araa	nt unlan	diaturba d	or problematic	
	f hydrophytic vegetat  Layer (if observed):		liand nydrology mus	st be prese	ent, uniess	s disturbed	or problematic	;. 
Type: R	,							
	ches): <u>6</u>		<del></del>				Hvdric Soil	Present? Yes No/_
Remarks:	Ciles). <u>U</u>						,	
	ators of hydric	soils: re	estrictive lave	r prese	ent at 6	". Hvdr	ology and	dominant vegetation
	the area is up			. p. 555			0.097 0	gotamon og gotamon



wasd036\_u\_E



wasd036\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland	Sa	ampling Date: 2019-10-01
Applicant/Owner: Enbridge			
Investigator(s): AGG/OTG			
Landform (hillslope, terrace, etc.): Depression	· · · · ·		
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.			
Soil Map Unit Name: Chabeneau-Annalake com			
Are climatic / hydrologic conditions on the site typical for this t	•		
Are Vegetation, Soil, or Hydrology sig			
Are Vegetation, Soil, or Hydrology nat			
SUMMARY OF FINDINGS – Attach site map sl	owing sampling point loc	ations, transects, ir	mportant features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Ar	ea	
Hydric Soil Present? Yes ✓ No		Yes <u>√</u>	No
Wetland Hydrology Present? Yes No		tland Site ID:	
Remarks: (Explain alternative procedures here or in a separative procedure here.	ate report.)		
The feature is a PEMB located along a re	oad.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicator	s (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	•	· · · · · · · ·
	Stained Leaves (B9)	Drainage Patter	
	c Fauna (B13)	Moss Trim Lines	
Saturation (A3) Marl D	eposits (B15)	Dry-Season Wa	iter Table (C2)
Water Marks (B1) Hydro	gen Sulfide Odor (C1)	Crayfish Burrow	/s (C8)
Sediment Deposits (B2) Oxidiz	ed Rhizospheres on Living Roots (	C3) Saturation Visib	le on Aerial Imagery (C9)
	ice of Reduced Iron (C4)	<del></del>	ssed Plants (D1)
	Iron Reduction in Tilled Soils (C6)		
	uck Surface (C7)	Shallow Aquitar	
	Explain in Remarks)	Microtopograph	
Sparsely Vegetated Concave Surface (B8) Field Observations:		✓ FAC-Neutral Te	St (D5)
Surface Water Present? Yes No _✓_ Depth	(inches):		
Water Table Present? Yes No _✓ Depti			
Saturation Present? Yes No ✓ Depti		nd Hydrology Present?	Yes _ ✓ No
(includes capillary fringe)	. ,		100 <u>v</u> NO
Describe Recorded Data (stream gauge, monitoring well, ae	ial photos, previous inspections), if	available:	
Remarks:			
The wetland hydrology regime is saturate	ed.		

# **VEGETATION** – Use scientific names of plants.

/EGETATION - Use scientific names of plants	1.			Sampling Point: wasd004e_w
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: 2.0 (B)
3				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species 90.0 x 1 = 90.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>5.0</u> x 2 = <u>10.0</u>
1				FAC species <u>0.0</u> x 3 = <u>0.0</u>
2				FACU species 0.0 x 4 = 0.0
3				UPL species $0.0 \times 5 = 0.0$
4.				Column Totals: <u>95.0</u> (A) <u>100.0</u> (B)
5				Prevalence Index = B/A =1_1
				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	0.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Calamagrostis canadensis	70.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Scirpus cyperinus			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
<ul><li>3. <u>Solidago gigantea</u></li><li>4</li></ul>			FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7.				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
				and greater than or equal to 3.28 ft (1 m) tall.
10.			·	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			-	Woody vines – All woody vines greater than 3.28 ft in
12				height.
	95.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2		-		
3				Hydrophytic
4				Vegetation No.
		= Total Co	ver	Present? Yes _ ✓ No
Remarks: (Include photo numbers here or on a separate The sample plot is dominated by obliga		ies.		

SOIL Sampling Point: wasd004e\_w

Profile Des	cription: (D	escribe t	to the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth (inches)				Redox Features Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>					Texture	Remarks
0-6	10YR		70	7.5YR	,	25	C	M	CL	Tomano
0-6				7.5YR	5/6	5	С	М	CL	
6-12	7.5YR	3/4	80	7.5YR		20	С	M	CL	
Hydric Soil  Histoso Histic E Black F Hydrog Stratifie Deplete Thick D Sandy F Sandy F Sandy F	Concentration Indicators: Indi	) 5) k Surface (A12) al (S1) x (S4)		Polyva MLF Thin D Loamy Loamy Deplet Redox Deplet	RA 149B) ark Surfa Mucky M Gleyed I ed Matrix Dark Sur	v Surface ce (S9) ( <b>L</b> dineral (F1) datrix (F2) (F3) face (F6) Surface (F	(S8) (LR RR R, M ) (LRR K	R R, LRA 149B)	Indicators  2 cm M Coast F 5 cm M Dark S Polyval Thin Da Iron-Ma Piedmo Mesic S Red Pa	PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :  luck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  lucky Peat or Peat (S3) (LRR K, L, R)  urface (S7) (LRR K, L)  lue Below Surface (S8) (LRR K, L)  ark Surface (S9) (LRR K, L)  anganese Masses (F12) (LRR K, L, R)  ont Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  arent Material (F21)  hallow Dark Surface (TF12)
Dark Su	urface (S7) (	LRR R, M							Other (	Explain in Remarks)
	of hydrophyti Layer (if ob	_	ion and w	etland hydro	logy mus	t be prese	nt, unles	s disturbed o	or problematic	•
Type: C										
Depth (ir	nches): <u>12</u>								Hydric Soil	Present? Yes <u>√</u> No
Remarks: A restric	tive laye	r of co	bble is	s present	t at a d	depth o	f 12".			



wasd004e\_w\_S



wasd004e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG		
File #: wasd004	Date of visit(s): 10/01/2019		
Location: PLSS: <u>045N-002W-01</u>	Ecological Landsca North Central Forest	ape:	
Lat: 46.407513 Long: -90.54916  County: Ashland Town/City/Village: Morse town	Watershed: LS13, Tyler Forks		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: T3/5K		
5543B Chabeneau-Annalake complex Field Verified:	Wetland Type(s): PEM - Fresh Wet Meadow		
Series not verified. Soils were a clay loam throughout the profile, and a restricive cobble	Wetland Size: 0.19	Wetland Area Impacted 0.19	
layer was hit at a depth of 12 inches.	Vegetation: Plant Community [	Description(s):	
Hydrology: The wetland hydrology regime is saturated.		dow dominated by canadensis and Scirpus	

 SITE MAP	

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N N	3 or more strata present (>10% cover)
3		N N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>&gt; 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	.,		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	- 14	IN	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4			Evidence of flashy hydrology
-	N	N	Point or non-point source inflow
5	Y	Y	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	Υ	Stormwater or surface water from agricultural land is major hydrology source
8	Ν	N	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
	N	N	
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-1: The feature is located along an unpaved road, but infrequent traffic and the small road side make the road a minimal barrier to the forest surrounding it. ST-7: The wetland is adjacent to a planted clover field. Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments **Amphibians** Υ Reptiles Mammals Avian Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	riant community integrity (choic)								
	Low	Medium	High	Exceptional					
Invasive species cover	> 50%	20-50%	10-20%	<10%√					
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented					
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)					
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare					
FQI (optional)	<13	13-23	23-32	>32					
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7					

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Calamagrostis canadensis			PEM	Abundant
Scirpus cyperinus			PEM	Common
Calamagrostis canadensis Scirpus cyperinus Solidago gigantea			PEM	Uncommon

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland has low diversity, and is disturbed. No invasive species were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		Н	С	Point source or stormwater discharge
Х	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		M	С	Agriculture – hay
					Agriculture – pasture
Х	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
			D.4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is located in a gravel logging road, and is adjacent to a planted clover field.					

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity	<b>√</b>								
Human Use Values	<b>√</b>								
Wildlife Habitat	<b>√</b>								
Fish and Aquatic Life Habitat					<b>√</b>				
Shoreline Protection					<b>√</b>				
Flood and Stormwater Storage		<b>/</b>							
Water Quality Protection		<b>√</b>							
Groundwater Processes	<b>√</b>								

FUNCTION	RATIONALE
Floristic Integrity	Dominated by few disturbance-dependent species.
Human Use Values	No potential uses.
Wildlife Habitat	Location is not condusive to wildlife.
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow basin with small physical size, but densely vegetated and absorbs some stormwater runoff.
Water Quality Protection	See above.
Groundwater Processes	Recharge wetland.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-01						
•	State: WI Sampling Point: wasd004_u						
Investigator(s): AGG/OTG	Section, Township, Range: 045N-002W-01						
	ocal relief (concave, convex, none): Convex Slope (%): 3-7%						
	91 Long: <u>-90.549156</u> Datum: <u>WGS84</u>						
	0 to 6 percent slopes NWI classification:						
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes No						
Are Vegetation, Soil, or Hydrology naturally pro-	roblematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing	g sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No✓	Is the Sampled Area						
Hydric Soil Present? Yes No✓	within a Wetland? Yes No/						
Wetland Hydrology Present? Yes No							
Remarks: (Explain alternative procedures here or in a separate republic Upland sample point located in a planted clove							
Opiana Sample point located in a planted Gov	er riela.						
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)							
Surface Water (A1) Water-Stained	· · · · · · · · · · · · · · · · · · ·						
High Water Table (A2) Aquatic Fauna							
Saturation (A3) Marl Deposits							
Water Marks (B1) Hydrogen Sulf							
Sediment Deposits (B2) Oxidized Rhiz Drift Deposits (B3) Presence of R	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)  deduced Iron (C4) Stunted or Stressed Plants (D1)						
	eduction in Tilled Soils (C6) Geomorphic Position (D2)						
Iron Deposits (B5) Thin Muck Su							
Inundation Visible on Aerial Imagery (B7) Other (Explain							
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No ✓ Depth (inches	s):						
Water Table Present? Yes No Depth (inches	s):						
Saturation Present? Yes No ✓ Depth (inches	s): Wetland Hydrology Present? Yes No/						
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Dodding Hoodida Bata (ettaani garge, manning man, an an an	indepositorio, il aramazio.						
Remarks: No wetland hydrology indicators were observed	~ A						
NO Welland Hydrology mulcators were observe	eu.						
	I						

# **VEGETATION** – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:30') 1				Sampling Point: wasd004_u
	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
		-		Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata:
4			·	Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5				That Are OBL, FACW, or FAC: 0.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
451	0.0	= Total Co	over	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
1				FACU species 96.0 x 4 = 384.0
2				UPL species
3				Column Totals: 101.0 (A) 409.0 (B)
4				(A) <u>403.0</u> (B)
5				Prevalence Index = B/A =4.0
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0			2 - Dominance Test is >50%
	0.0	= 10(a) CC	over	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. <i>Trifolium repens</i>	90.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Poa pratensis</u>		Ν	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Medicago sativa</u>		N	UPL	
4. Lolium perenne				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
•				
5				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	101.0	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')		. 010. 00		
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No/
T	0.0	= Total Co	over	

SOIL Sampling Point: wasd004\_u

	cription: (Describe	to the dep				or confirm	the absence of	indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	K Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	7.5YR 3/4	100						
	· -							
		_						
								_
1							2 –	
	Concentration, D=Dep Indicators:	letion, RM:	Reduced Matrix, MS	=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.  r Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalue Below	v Surface	(S8) ( <b>LRI</b>	RR,		k (A10) ( <b>LRR K, L, MLRA 149B</b> )
	pipedon (A2)		MLRA 149B)					airie Redox (A16) (LRR K, L, R)
	listic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky M					ky Peat or Peat (S3) (LRR K, L, R) ace (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed N			, –,		Below Surface (S8) (LRR K, L)
	ed Below Dark Surfac	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)			ganese Masses (F12) ( <b>LRR K, L, R</b> ) Floodplain Soils (F19) ( <b>MLRA 149B</b> )
	Gleyed Matrix (S4)		Redox Depressi		• ,			odic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)							nt Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	MLRA 1491	3)					llow Dark Surface (TF12) plain in Remarks)
	of hydrophytic vegeta		tland hydrology mus	t be prese	ent, unles	s disturbed	or problematic.	
	Layer (if observed):							
Type: <u>C</u>			<del></del>				Hydric Soil Pro	esent? Yes No✓_
Remarks:	nches): <u>12</u>						Tryunc com i	163 NO <u>V</u>
	tive cobble lay	er is pr	esent at 12". N	No hyd	ric soi	indicat	tors observe	ed.



wasd004\_u\_N



wasd004\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	ation Project		City/C	County: Iron	1		Sampling Date: 2019-10-01
	•						Sampling Point: wirc031f_w
Investigator(s): BRG/JSW							
Landform (hillslope, terrace, etc	.): Depression	า	Local reli	ief (concave,	convex, non	e): Concave	Slope (%): <u>0-2%</u>
							Datum: WGS84
							ation:
Are climatic / hydrologic condition							
							oresent? Yes ✓ No
Are Vegetation, Soil							
SUMMARY OF FINDING	S – Attach sit	e map s	showing sam	npling poir	nt locatio	ns, transects	, important features, etc.
Hydrophytic Vegetation Preser Hydric Soil Present?		✓ No		Is the Samp within a We		Yes <u>√</u>	No
Wetland Hydrology Present?  Remarks: (Explain alternative	Yes	✓ No	)	If yes, option	nal Wetland	Site ID:	
The wetland is a hard adjacent to a logging							
HYDROLOGY						Coondon India	tora (minimum of two required)
Wetland Hydrology Indicator  Primary Indicators (minimum of		hack all th	nat annly)			-	tors (minimum of two required)  Cracks (B6)
Surface Water (A1)			er-Stained Leave		Surface Soil Cracks (B6) Drainage Patterns (B10)		
High Water Table (A2)			atic Fauna (B13)			Moss Trim Li	
Saturation (A3)			Deposits (B15)		Nidas Hill Ellies (B10) Dry-Season Water Table (C2)		
Water Marks (B1)			ogen Sulfide Od	or (C1)		Crayfish Burr	
Sediment Deposits (B2)		Oxidi	ized Rhizosphere	es on Living F	Roots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3)		Pres	ence of Reduced	d Iron (C4)		Stunted or St	ressed Plants (D1)
Algal Mat or Crust (B4)			ent Iron Reductio		ils (C6)	✓ Geomorphic	Position (D2)
Iron Deposits (B5)		Thin	Muck Surface (C	27)		Shallow Aqui	
Inundation Visible on Aeri		Othe	r (Explain in Ren	narks)		Microtopogra	
Sparsely Vegetated Conc	ave Surface (B8)					✓ FAC-Neutral	Test (D5)
Field Observations:	W N-	( D.:	the Constant				
Surface Water Present?	Yes No _						
Water Table Present? Saturation Present?	Yes No Yes No _				Wotland L	vdrology Proson	t? Yes <u>√</u> No
(includes capillary fringe)			, , ,	_			ιι: Tes_ <u>γ</u> NO
Describe Recorded Data (stream	am gauge, monitori	ing well, a	erial photos, pre	vious inspect	ions), if avai	lable:	
Remarks:							
		•	urated, with	h recharg	ge hydro	logy. The w	etland receives runoff
from the upslope gra	ıvel logging r	oad.					

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wirc031f_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Ulmus americana</u>	30.0	Y	<b>FACW</b>	Number of Dominant Species That Are OBL, FACW, or FAC:7(A)
2. <u>Fraxinus nigra</u>	20.0	Y	<b>FACW</b>	Total Number of Dominant
3. <u>Acer saccharum</u>				Species Across All Strata: 7 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	55.0	= Total Co	ver	OBL species <u>18</u> x 1 = <u>18</u>
Sapling/Shrub Stratum (Plot size:)				FACW species87 x 2 =174
1. <u>Ulmus americana</u>	30.0	Y	<u>FACW</u>	FAC species x 3 = 15
2				FACU species 5 x 4 = 20
3				UPL species0 x 5 =0 Column Totals:115 (A)227 (B)
4				
5				Prevalence Index = B/A =1.97
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	_30	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting)
1. Carex tuckermanii	10.0	Y	OBL	data in Remarks or on a separate sheet)
2. <u>Carex crinita</u>	5.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Populus tremuloides</u>	5.0	Y	FAC	The directions of booking of the object of the design of the object of t
4. <u>Ulmus americana</u>	5.0	Y	<b>FACW</b>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Scutellaria lateriflora</u>	2.0	N	OBL	Definitions of Vegetation Strata:
6. <u>Carex projecta</u>	2.0	N	<b>FACW</b>	
7. Glyceria striata	1.0	N	OBL	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	_30_	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Co	ver	163 <u>v</u> 10
Remarks: (Include photo numbers here or on a separate see The wetland is dominated by Fraxinus researched).	iheet.) nigra an	d Ulmu	s amerio	cana, with a sparse herbaceous layer.

SOIL Sampling Point: wirc031f\_w

Depth Malarix Redox Features (Inches) Color (moist) % Type' Loo' Texture Remarks  Q-3 10YR 2/1 100  3-12 10YR 5/2 95 7.5YR 4/6 5 C M SIL Prominent redox  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  *Location: PL=Pore Lining, M=Matrix Indicators for Problematic Hydric Soils*:  2 can two kinds (A1)	Profile Desc	cription: (Describe t	to the dep	oth needed to d	document the	indicator	or confirm	the absence	e of indicators.)	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   SLC   Prominent redox			0/				12	Tantona	Deve ent e	
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Restrictive Layer (if observed):  Type: cobble  Depth (inches): 12  Remarks:  Hydric Soil Present? Yes _ ✓ No			ILRA 149	В)						
Restrictive Layer (if observed):  Type: cobble  Depth (inches): 12  Remarks:  Hydric Soil Present? Yes _ ✓ No	31 12 1	f handra a hadina a sa sa ta ti		ette e diterralmete m			a d'atombo d			
Type: <u>cobble</u> Depth (inches): 12  Remarks:  Hydric Soil Present? Yes _ ✓ No				etiana nyarology	y must be pres	ent, unies	s disturbed (	or problemati	С.	
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Remarks:								Hydric Soi	I Present? Yes ✓ No	
		are depleted	under	a dark surf	face.					
		•								



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wirc031f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW				
File #: wirc031	Date of visit(s): 10/01/2019				
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:			
Lat: 46.400663 Long: -90.547604	Watershed: LS13, Tyler Forks				
County: Iron Town/City/Village: Anderson town					
SITE DESCRIPTION					
Soils: Mapped Type(s):	WWI Class: N/A				
5351C Gogebic silt loam	Wetland Type(s): PFO - hardwood swamp				
Field Verified:		•			
Series not verified. Soils were mucky mineral above silt loam.	Wetland Size: 0.07	Wetland Area Impacted 0.07			
	Vegetation: Plant Community Description(s):				
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology. The wetland receives runoff from the adjacent gravel logging road.	The hardwood swamp is dominated by Fraxinus nigra and Ulmus americana, with a sparse herbaceous layer.				

SITE MAP		

### **SECTION 1: Functional Value Assessment**

	SECTION 1: Functional Value Assessment				
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty		
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting, birding		
2	N	N	Used for educational or scientific purposes		
3	Υ	Υ	Visually or physically accessible to public		
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation		
	- ' '	- 13	In or adjacent to RED FLAG areas		
5	N	N	List:		
6	N	N	Supports or provides habitat for endangered, threatened or special concern species		
7	IN	111	In or adjacent to archaeological or cultural resource site		
WH			Wildlife Habitat		
1	N	Υ	Wetland and contiguous habitat >10 acres		
2	Y	Y	3 or more strata present (>10% cover)		
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area		
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact		
5	N	N			
-	N	N	Occurs in a Joint Venture priority township		
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)		
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other		
			plans		
8	N	Υ	Part of a large habitat block that supports area sensitive species		
9	N	N	Ephemeral pond with water present <u>&gt; 45 days</u>		
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates		
11	N	N	Seasonally exposed mudflats present		
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)		
FA			Fish and Aquatic Life Habitat		
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake		
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates		
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system		
4	N	Υ	Vegetation is inundated in spring		
SP			Shoreline Protection		
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable		
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating		
2	N	N	water levels or high flows – if no, not applicable		
3	N	N	Densely rooted emergent or woody vegetation		
ST			Storm and Floodwater Storage		
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream		
2	Y	Y	Water flow through wetland is NOT channelized		
3	Y	Y	Dense, persistent vegetation		
4	N	N	Evidence of flashy hydrology		
5	Y	Y	Point or non-point source inflow		
6	N	N	Impervious surfaces cover >10% of land surface within the watershed		
7			Within a watershed with <10% wetland		
	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event		
8 WQ	N	N	Water Quality Protection		
. 1	\ <u>'</u>				
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section		
2	Y	Y	Basin wetland or constricted outlet		
3	Y	Y	Water flow through wetland is NOT channelized		
4	N	N	Vegetated wetland associated with a lake or stream		
5	Υ	Y	Dense, persistent vegetation		
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth		
7	N	N	Stormwater or surface water from agricultural land is major hydrology source		
8	N	N	Discharge to surface water		
9	N	N	Natural land cover in 100m buffer area < 50%		
GW			Groundwater Processes		
1	N	N	Springs, seeps or indicators of groundwater present		
2	N	N	Location near a groundwater divide or a headwater wetland		
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs		
4	N	N	Wetland soils are organic		
5	N	N	Wetland is within a wellhead protection area		
	l IV	I IN	wouldno is willing wellineau protection area		

Section 1 Comments (Refer to Section 1 numbers)						
HU-3: located on county land HU-4: the surrounding area has been logged, and piles of branches from this activity are present ST-5: receives runoff from the adjacent gravel road						
		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,				
	nter, etc.	oservation, tracks, scat, other sign, type of habitat. hesting, hillgratory,				
Observed	Potential	Species/Habitat/Comments				
Y	Y	Woodpeckers (on snag tree with many holes)  Avian				
		AVIGIT				
		<u> </u>				
		atic Life Habitat and Species Observations				
LIS	st: airect or	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.				
Observed	Potential	Species/Habitat				
	Υ	Frogs				
	Υ	Aquatic invertebrates				
	Y	Amphibians				

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Ulmus americana			PFO	Abundant
Fraxinus nigra			PFO	Common
Acer saccharum			PFO	Uncommon
Carex tuckermanii			PFO	Common
Carex crinita			PFO	Uncommon
Populus tremuloides			PFO	Uncommon
Scutellaria lateriflora			PFO	Uncommon
Carex projecta			PFO	Uncommon
Glyceria striata			PFO	Rare

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has a typical plant community for the wetland type, although the area has been disturbed by logging.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
	V				Hydrologic changes - high capacity wells,
	X				impounded water, increased runoff
	Х		Н	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V		0	Removal of tree or shrub strata – logging,
X	X	X	Н	С	unprescribed fire
	Х		Н	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland has been impacted by historic and current logging practices and is stressed by the roads and machinery
associated with this activity.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>√</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>✓</b>			
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	No invasives, limited recent logging
Human Use Values	Potential hunting use
Wildlife Habitat	Woodpecker presence, high bird activity in the surrounding area
Fish and Aquatic Life Habitat	Habitat provided after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Stores runoff from the adjacent road, closed basin
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u> ror</u>	Sa	ampling Date: <u>2019-10-01</u>
Applicant/Owner: Enbridge		State: WI	Sampling Point: wirc031 u
Investigator(s): JSW/BRG	Section, Township	Range: 045N-001W-06	
Landform (hillslope, terrace, etc.): Side slope			
Subregion (LRR or MLRA): Northcentral Forests Lat			
Soil Map Unit Name: Gogebic silt loam, 6 to			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site m	nap showing sampling poi	nt locations, transects, in	mportant features, etc.
Hydrophytic Vegetation Present? Yes	_ No _ ✓ Is the Sam	oled Area	
Hydric Soil Present? Yes	_ No✓ within a W	etland? Yes	No <u>√</u>
		nal Wetland Site ID:	_
Remarks: (Explain alternative procedures here or in The upland is located in a mesic hall	a separate report.)		
The upland is located in a mesic hal	idwood iorest.		
HYDROLOGY			
Wetland Hydrology Indicators:			s (minimum of two required)
Primary Indicators (minimum of one is required; chec		<del></del>	
	Water-Stained Leaves (B9)	Drainage Patter	
	Aquatic Fauna (B13)	Moss Trim Lines	
	Marl Deposits (B15)	Dry-Season Wa	
	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living	Crayfish Burrow	le on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		ssed Plants (D1)
1 — · · · · —	Recent Iron Reduction in Tilled So		
	Thin Muck Surface (C7)	Shallow Aquitar	
	Other (Explain in Remarks)	Microtopograph	
Sparsely Vegetated Concave Surface (B8)	2 ( <i>2</i> /4/2 1 toa)	FAC-Neutral Te	` '
Field Observations:		<u> </u>	
Surface Water Present? Yes No _ ✓	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring v	well aerial photos, previous inspec	ions) if available	
Besonse Resorded Bata (stream gauge, monitoring t	von, dendi priotos, previodo mopeo	10113), 11 available.	
Remarks: No indicators of wetland hydrology v	wore observed		
Two indicators of wetland flydrology	were observed.		

**VEGETATION** – Use scientific names of plants.

•				Sampling Point: wirc031 u
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:
2. Ostrya virginiana				Total Number of Dominant
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6	<u> </u>			Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	85.0	= Total Co	ver	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size: 15')	400		=	FACW species $0.0   x2 = 0.0$ FAC species $25.0   x3 = 75.0$
1. <u>Populus tremuloides</u>				FACU species 97.0 x 4 = 388.0
2			·	UPL species $0.0 \times 5 = 0.0$
3				Column Totals: 122.0 (A) 463.0 (B)
4				Prevalence Index = B/A = 3.8
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	<u>10.0</u> :	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Mitchella repens	10.0	V	EACH	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex pedunculata			FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Symphyotrichum lateriflorum		N	FAC	
4. Oryzopsis asperifolia			NL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
5. <u>Lapsana communis</u>			FACU	be present, unless disturbed or problematic.
6				Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11	_			of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	27.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3			· ·	Hydrophytic
				Vegetation   Present?
4		= Total Co		

SOIL Sampling Point: wirc031\_u

	cription: (Describe t	o the depti	n needed to document the indicator or confirm	the absence of indicato	rs.)
Depth (inches)	Matrix Color (moist)	%	Redox Features  Color (moist)	Texture	Remarks
0-3	7.5YR 2.5/2	100		SICL	
3-10	7.5YR 3/3	100		SICL	
10-20	5YR 3/4	100		SICL	
					_
-					
17		-C DM I	Ondered Marke MO. Marked One d One in	21 and the Plane II	Colonia NA Markin
Hydric Soil		etion, Rivi=i	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore I	
Histosol		_	Polyvalue Below Surface (S8) (LRR R,		LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B)  Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) ( <b>LRR K, L, R</b> ) or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)	<u>-</u>	Loamy Mucky Mineral (F1) (LRR K, L)	Dark Surface (S7)	
	d Layers (A5)	_	Loamy Gleyed Matrix (F2)		urface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11) _	<ul><li>Depleted Matrix (F3)</li><li>Redox Dark Surface (F6)</li></ul>	Thin Dark Surface	(S9) (LRR K, L) lasses (F12) (LRR K, L, R)
	Mucky Mineral (S1)	_	Depleted Dark Surface (F7)		in Soils (F19) ( <b>MLRA 149B</b> )
Sandy G	Gleyed Matrix (S4)	_	Redox Depressions (F8)	Mesic Spodic (TA6	6) (MLRA 144A, 145, 149B)
	Redox (S5)			Red Parent Materi	
	l Matrix (S6) rface (S7) ( <b>LRR R, M</b>	ILRA 149B)		Very Shallow Dark Other (Explain in F	
					,
	f hydrophytic vegetati Layer (if observed):	ion and wet	land hydrology must be present, unless disturbed of	or problematic.	
Type:	Layer (II Observed).				
	ches):			Hydric Soil Present?	Yes No <u>√</u>
Remarks:			<del></del>		
No indica	ators of hydric	soil wer	e observed.		



wirc031\_u\_E



wirc031\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iror</u>	1	Sampling Date: 2019-10-01
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 2			
Soil Map Unit Name: Tula-Gogebic complex,			
Are climatic / hydrologic conditions on the site typical for t		•	
	•		
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing sampling poi	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?  Remarks: (Explain alternative procedures here or in a some street of the wetland is a fresh wet meadow/harmonic fresh wet meadow/harmonic fresh wetland is a fresh wet meadow/harmonic fresh wetland is a fresh wet meadow/harmonic fresh wetland is a fresh we	No within a W No If yes, option separate report.) ardwood swamp com	etland? Yes nal Wetland Site ID:  plex. The fresh wet	•
is artificial, and only exists due to historunoff.	oric and current loggir	ng activity compactir	ng soils and creating
HYDROLOGY			
Wetland Hydrology Indicators:		•	ators (minimum of two required)
Primary Indicators (minimum of one is required; check a		Surface Soil	
	/ater-Stained Leaves (B9) quatic Fauna (B13)	Drainage Pa Moss Trim L	
	arl Deposits (B15)		Water Table (C2)
	ydrogen Sulfide Odor (C1)	Crayfish Bur	
	xidized Rhizospheres on Living		isible on Aerial Imagery (C9)
	resence of Reduced Iron (C4)		tressed Plants (D1)
	ecent Iron Reduction in Tilled Sc		
	nin Muck Surface (C7)	Shallow Aqu	
	ther (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No _✓_ □	Depth (inches):		
Water Table Present? Yes _ ✓ No D	Depth (inches): 2		
	Depth (inches): 0	Wetland Hydrology Preser	nt? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring wel	ll, aerial photos, previous inspec	tions), if available:	
, , , ,		•	
Remarks:			
The hydrologic regime is seasonally s runoff from the adjacent logging road part of the wetland.	•		*

# **VEGETATION –** Use scientific names of plants.

VEGETATION – Use scientific names of plants				Sampling Point: wirc030e_w
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species <u>42</u> x 1 = <u>42</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 10 x 2 = 20
1				FAC species x 3 =
2				UPL species x 5 = 25
3				Column Totals: 98 (A) 210 (B)
4				
5				Prevalence Index = B/A = 2.14
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:5' )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Scirpus hattorianus</u>	30.0	Y	OBL	data in Remarks or on a separate sheet)
2. <u>Agrostis scabra</u>	20.0	Y	<u>FAC</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Juncus tenuis</u>	10.0_	N	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Rubus pubescens	_10.0_	N	FACW	be present, unless disturbed or problematic.
5. <u>Juncus brevicaudatus</u>	5.0	N	OBL	Definitions of Vegetation Strata:
6. <u>Persicaria hydropiper</u>	5.0	N	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Hypericum perforatum</u>	5.0	N	<u>UPL</u>	at breast height (DBH), regardless of height.
8. <u>Osmunda claytoniana</u>	5.0	N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Populus tremuloides</u>	5.0	N	FAC	and greater than or equal to 3.28 ft (1 m) tall.
10. <i>Persicaria sagittata</i>	2.0	N	OBL	Herb – All herbaceous (non-woody) plants, regardless
11. <u>Gnaphalium uliginosum</u>	1.0	N	FAC	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	98	= Total Co	over	neight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes / No
	0.0	= Total Co	over	riesent: res v No
Remarks: (Include photo numbers here or on a separate				
The wetland is dominated by species the	nat grow	/ well in	ı disturbe	ed soils.

SOIL Sampling Point: wirc030e\_w

Profile Desc	cription: (Des	cribe to the	depth needed to	document th	ne indicator	or confirm	n the absence of in	dicators.)
Depth		trix		Redox Featu		. 2	<b>-</b> .	B
(inches)	Color (moi		Color (mo	oist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5		<u>1/2</u> 100					_MMI	
5-7	7.5YR 4	<u>/4    100</u>	)				SCL_	
			_					
			_					-
		=Depletion, I	RM=Reduced Ma	trix, MS=Masl	ked Sand Gr	ains.		Problematic Hydric Soils <sup>3</sup> :
Hydric Soil Histosol			Polyvolu	ie Below Surfa	oo (S8) (I <b>D</b>	D D		(A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			149B)	ice (30) (ER	ΛN,		e Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3)			rk Surface (S9			) 5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)			Mucky Mineral		(, L)		e (S7) (LRR K, L)
	d Layers (A5) d Below Dark S	Surface (A11)	-	Gleyed Matrix ( d Matrix (F3)	(F2)			elow Surface (S8) ( <b>LRR K, L</b> ) surface (S9) ( <b>LRR K, L</b> )
	ark Surface (A1			ark Surface (F	<del>-</del> 6)			nese Masses (F12) (LRR K, L, R)
-	/lucky Mineral (			d Dark Surface				loodplain Soils (F19) ( <b>MLRA 149B</b> )
-	Gleyed Matrix (	54)	Redox D	epressions (F	8)			ic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) I Matrix (S6)							Material (F21) w Dark Surface (TF12)
	rface (S7) ( <b>LR</b> I	R R, MLRA 1	<b>49B</b> )					ain in Remarks)
3								
	f hydrophytic vo Layer (if obsei	-	wetland hydrolo	gy must be pr	esent, unles	s disturbed	l or problematic.	
Type:	Layer (II Obser	veu).						
	ches):						Hydric Soil Pres	ent? Yes <u>√</u> No
Remarks:	CHES).						1	
	e been he	eavilv dis	turbed by lo	ogging ac	tivitv. an	d sianif	icant amounts	s of gravel are present.
	heavily co	-	-	- 333	<b>,</b> ,			э э у
	,	'						



wirc030e\_w\_N



wirc030e\_w\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u>		Sampling Date: <u>2019-10-01</u>
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township,	Range: 045N-001W-0	06
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4			
Soil Map Unit Name: Tula-Gogebic complex, 0 to			
Are climatic / hydrologic conditions on the site typical for this ti	•	•	
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology nat		If needed, explain any answer	,
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling poir	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No	within a We	oled Area otland? Yes   ✓ nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separ	rate report.)		
The wetland is a hardwood swamp/fresh has been logged in the past, but is relative component.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface Soil	
	-Stained Leaves (B9)	Drainage Pat	
	c Fauna (B13)	Moss Trim Li	
	eposits (B15)	Dry-Season \	
	gen Sulfide Odor (C1) ed Rhizospheres on Living F	Crayfish Burr	sible on Aerial Imagery (C9)
	ed Rhizospheres on Living R nce of Reduced Iron (C4)		ressed Plants (D1)
	t Iron Reduction in Tilled Soi		
	luck Surface (C7)	Shallow Aqui	
	(Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No _ ✓ _ Depth	ı (inches):		
Water Table Present? Yes No _✓ Depth			
Saturation Present? Yes No _✓ Depth	ı (inches):	Wetland Hydrology Presen	t? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aer	rial photos, previous inspect	ions) if available	
Describe Neodided Data (stream gaage, memoring, 22.	iai priotos, provioso mopesa.	ions, ii avanasio.	
Remarks: The hydrologic regime is seasonally satu	rated with rechard	e hydrology. The w	etland receives runoff
from the adjacent gravel logging road.	nated, with recharg	je nyurology. The w	Cliana receives runon
lioni the adjacent graver logging road.			

<b>EGETATION –</b> Use scientific names of plants.				Sampling Point: wirc030f w
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <i>Fraxinus nigra</i>	20.0	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. <u>Acer saccharum</u>	10.0	Y	<u>FACU</u>	Total Number of Dominant
3. <u>Acer rubrum</u>	10.0	Y	FAC	Species Across All Strata: 8 (B)
4. <u>Ulmus americana</u>	5.0	N	<b>FACW</b>	Percent of Dominant Species
5. <i>Populus tremuloides</i>	5.0	N	FAC	That Are OBL, FACW, or FAC: 75.00 (A/B)
6. <u>Acer saccharinum</u>	5.0	N	<b>FACW</b>	Prevalence Index worksheet:
7				Total % Cover of:Multiply by:
	55.0	= Total Cov	/er	OBL species x 1 = 40
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>35</u> x 2 = <u>70</u>
1. Corylus cornuta	10.0	Y	FACU	FAC species x 3 = 69
2. Acer rubrum				FACU species 20 x 4 = 80
3. Fraxinus nigra				UPL species $0 \times 5 = 0$
4.				Column Totals:118 (A)259 (B)
5.				Prevalence Index = B/A =2_19
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )		Total Oo	701	3 - Prevalence Index is ≤3.0¹
1. Carex tuckermanii	30.0	V	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex crinita			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. Populus tremuloides		N	FAC	
4. Acer rubrum				¹Indicators of hydric soil and wetland hydrology must
5				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
6 7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12		= Total Cov		height.
201	_43_	= Total Cov	/er	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4			-	Present? Yes/ No
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s The forested component of the wetland a various assemblage of tree species.		inated b	y Fraxir	nus nigra and Carex tuckermanii, with

SOIL Sampling Point: wirc030f\_w

Profile Desc	cription: (Describe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix Color (moist)	%	Color (n		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches)	10YR 2/1	100	<u>Color (II</u>	<u>HOIST)</u>	70	туре	LUC	MMI	Remarks
4-10	10YR 4/2		7.5YR	4/4	5	С	M	SIC	Distinct redox
10-20	5YR 3/4	95	5YR	4/6	_5	С	_M_	COSL	Distinct redox
Type: C=C Hydric Soil Histic E Black H Hydroge Stratifier Deplete Thick Do Sandy N Sandy C Sandy F Stripped	oncentration, D=Depl	etion, RM	=Reduced M Polyva Thin D Loamy Loamy Deplet Redox Deplet Redox	Matrix, MS RA 149B) Park Surfa / Mucky N / Gleyed I red Matrix r Dark Sur	S=Masked w Surface lice (S9) (L Mineral (F1 Matrix (F2 (F3) rface (F6) Surface (F6)	Sand Gr (S8) (LRI LRR R, M	ains.	²Location Indicators 2 cm I Coast 5 cm I Dark \$ Polyva Thin E Iron-M Piedm Mesic Red P Very \$	DISTINCT redox  The PL=Pore Lining, M=Matrix.  The Fore Froblematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  The Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  The Pore Lining, M=Matrix.  The Pore Lining State of the
	f hydrophytic vegetati	on and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	C.
	Layer (if observed):								
Type: Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks:	epleted below a								



wire030f\_w\_E



wirc030f\_w\_N

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW	
File #: wirc030	Date of visit(s): 10/01/2019	
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	pe:
Lat: <u>46.400347</u> Long: <u>-90.544654</u>	Watershed: LS13, Tyler Forks	
County: Iron Town/City/Village: Anderson town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: T3K	
5353B Tula-Gogebic complex, 5351B Gogebic silt loam	Wetland Type(s): PEM/PFO complex -	fresh wet meadow/hardwood swamp
Field Verified:		
Series not verified. Within the forested component, soils were mucky mineral above silt clay above coarse sandy loam.	Wetland Size: 0.17	Wetland Area Impacted <sub>0.17</sub>
Within the emergent component, soils were mucky mineral above sandy clay loam.	Vegetation: Plant Community D	escription(s):
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology. The wetland receives runoff from the adjacent dirt road, and pools water due to compacted soils.	The fresh wet meadow hattorianus and Agrost succeed in disturbed e component is dominate	component is dominated by Scirpus is scabra, and consisting of species that nvironments. The hardwood swamped by Fraxinus nigra and Carex species present in the tree layer.

SITE MAP

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N N		Within or adjacent to habitat corridor or established wildlife habitat area
4		N	100 m buffer – natural land cover >50%(south) 75% (north) intact
$\overline{}$	N	N	_
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	- ' '	- 11	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6			Impervious surfaces cover >10% of land surface within the watershed
<b>—</b>	N	N	
7	N	N	Within a watershed with ≤10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
8	N	N	Water Quality Protection
WQ			
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
	N	N N	Wetland is within a wellhead protection area
5		i IN	L VANDERION DE VANDER O MENDEON DIVIENTAL OFFI

	soils cause water to	pool in part of the disturbed area
Wi Lie	Idlite Habita	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	socivation, tracks, sout, other sign, type of habitat. Hosting, inigratory,
Observed	Potential	Species/Habitat/Comments
Observed	Y	Deer
	Y	Avian
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Frogs
	Υ	Aquatic invertebrates
	Υ	Amphibians

Section 1 Comments (Refer to Section 1 numbers)

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Common
Agrostis scabra			PEM	Common
Juncus tenuis			PEM	Common
Rubus pubescens			PEM	Common
Juncus brevicaudatus			PEM	Uncommon
Persicaria hydropiper			PEM	Uncommon
Hypericum perforatum			PEM	Uncommon
Osmunda claytoniana			PEM	Uncommon
Populus tremuloides			PEM, PFO	Uncommon
Persicaria sagittata			PEM	Uncommon
Gnaphalium uliginosum			PEM	Rare
Fraxinus nigra			PFO	Common
Acer saccharum			PFO	Common
Acer rubrum			PFO	Common
Ulmus americana			PFO	Uncommon
Acer saccharinum			PFO	Uncommon
Corylus cornuta			PFO	Common
Carex tuckermanii			PFO	Common
Carex crinita			PFO	Common

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The fresh wet meadow component has low species diversity and is filled with common species that grow well in disturbed areas, however the hardwood swamp component is relatively intact due to logging only occurring historically in that area.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
	V				Hydrologic changes - high capacity wells,
	X				impounded water, increased runoff
	Х		Н	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		N 4	С	Removal of herbaceous stratum – mowing,
	X		M	C	grading, earthworms, etc.
Х	Х	Х	Н	С	Removal of tree or shrub strata – logging,
^	^	^	П	C	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Χ		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The fresh wet meadow component is an artificial feature that only exists due to soil compaction from past and
present logging activity. The wetland is significantly disturbed by a number of stressors. The hardwood swamp
component is also impacted by historic logging and associated stressors.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat			<b>√</b>		
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes		<b>√</b>			

FUNCTION	RATIONALE
Floristic Integrity	Disturbed in the fresh wet meadow component
Human Use Values	Potential for hunting
Wildlife Habitat	Some marginal habitat
Fish and Aquatic Life Habitat	Standing water provides habitat
Shoreline Protection	N/A
Flood and Stormwater Storage	Effectively stores stormwater runoff from gravel road
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u> rc</u>	n	Sampling Date: 2019-10-01
Applicant/Owner: Enbridge		State: WI	Sampling Point: wirc030_L
Investigator(s): JSW/BRG	Section, Townshi	p, Range: <u>045N-001W-0</u>	16
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.400407	Long: -90.544516	Datum: WGS84
Soil Map Unit Name: Gogebic silt loam, 2 t			
Are climatic / hydrologic conditions on the site typica	I for this time of year? Yes✓	No (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes ✓ No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS - Attach site	map showing sampling po	int locations, transects,	, important features, etc.
		npled Area Vetland? Yes	No <u></u>
1 -	NO	ional Wetland Site ID:	
Remarks: (Explain alternative procedures here or i		onal Welland Site ID.	
The upland is located in a regenerate.	ating upland forest com	munity. Quaking aspe	n dominates the
HYDROLOGY  Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil (	•
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pat	
	Aquatic Fauna (B13)	Moss Trim Li	nes (B16)
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Burr	
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
	<ul><li>Presence of Reduced Iron (C4)</li><li>Recent Iron Reduction in Tilled S</li></ul>	<del></del>	ressed Plants (D1)
	Thin Muck Surface (C7)	Soils (C6) Geomorphic Shallow Aqui	
	Other (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No/	Depth (inches):		
Water Table Present? Yes No/	Depth (inches):		
(includes capillary fringe)	Depth (inches):		t? Yes No✓_
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No indicators of wetland hydrology	were observed.		

**VEGETATION –** Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?		Dominance Test worksheet:
1. Acer rubrum			FAC	Number of Dominant Species
Fraxinus americana				That Are OBL, FACW, or FAC: 2.0 (A)
3				Total Number of Dominant Species Across All Strata: 5.0 (B)
4				/
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov		
Sapling/Shrub Stratum (Plot size: 15' )	00.0	- 10tai 00	VCI	FACW species
1. Populus tremuloides	25.0	Υ	FAC	FAC species <u>55.0</u> x 3 = <u>165.0</u>
2. Corylus cornuta				FACU species <u>90.0</u> x 4 = <u>360.0</u>
3				UPL species <u>5.0</u> x 5 = <u>25.0</u>
4				Column Totals: <u>150.0</u> (A) <u>550.0</u> (B)
5				Prevalence Index = B/A =3.7
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		rotal oo	<b>V</b> 01	3 - Prevalence Index is ≤3.0¹
1. <u>Pteridium aquilinum</u>	50.0	Y	<u>FACU</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Apocynum androsaemifolium	5.0	N	<u>UPL</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Oryzopsis asperifolia</u>	5.0	N	_NI_	1
4. <u>Mitchella repens</u>		N	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Carex pedunculata</u>		N	FAC	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	65.0	= Total Cov	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate The vegetation is typical of a regenerat		nd fore	et	
The regulation is typical of a regeneral	ing upla	ilia ioic.	J	

Sampling Point: wirc030\_u

SOIL Sampling Point: wirc030 u

Profile Desc	cription: (Describe t	o the depti	n needed to document the indicator or confirm	the absence of	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redox Features  Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-6	7.5YR 2.5/3	100		SICL	
6-10	5YR 3/4	100		SICL	
				<del></del> .	
					<del></del>
1Typo: C=C	ancontration D-Donl	otion DM-	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> l ocation:	PL=Pore Lining, M=Matrix.
Hydric Soil		elion, Rivi–r	Reduced Matrix, MO-Masked Sand Granis.		for Problematic Hydric Soils <sup>3</sup> :
Histosol		_	Polyvalue Below Surface (S8) (LRR R,		uck (A10) (LRR K, L, MLRA 149B)
Black Hi	oipedon (A2) stic (A3)	_	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> ) ucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)	_	Loamy Mucky Mineral (F1) (LRR K, L)		urface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	e (A11) _	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	-	ue Below Surface (S8) ( <b>LRR K, L</b> ) ark Surface (S9) ( <b>LRR K, L</b> )
Thick Da	ark Surface (A12)	_	Redox Dark Surface (F6)	Iron-Ma	inganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Bleyed Matrix (S4)	-	<ul><li>Depleted Dark Surface (F7)</li><li>Redox Depressions (F8)</li></ul>		ont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
Sandy R	Redox (S5)	_		Red Pa	rent Material (F21)
	l Matrix (S6) rface (S7) ( <b>LRR R, M</b>	II RA 149R)		-	nallow Dark Surface (TF12) Explain in Remarks)
	f hydrophytic vegetati  Layer (if observed):	on and wet	and hydrology must be present, unless disturbed	or problematic.	
Type: <u>ro</u>	• .				
	ches): <u>10</u>			Hydric Soil F	Present? Yes No✓
Remarks:					
No indica	ators of hydric	soil wer	e observed.		
					Į.



wirc030\_u\_E



wirc030\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Iron		Sampling Date: <u>2019-10-01</u>
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township,	Range: 045N-001W-0	6
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Gogebic silt loam, 2 to 6 p			
Are climatic / hydrologic conditions on the site typical for this	•	•	
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology r	naturally problematic? (I	I needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	t locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ✓ N Hydric Soil Present? Yes ✓ N Wetland Hydrology Present? Yes ✓ N Remarks: (Explain alternative procedures here or in a sep	lo within a We	oled Area tland? Yes _ ✓ nal Wetland Site ID:	
The wetland is a small hardwood swam		urbed by historic and	d recent logging. The
canopy is greatly reduced and the herb as a result.	•	•	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil 0	
	er-Stained Leaves (B9)	Drainage Patt	
	atic Fauna (B13)	Moss Trim Lir	
	l Deposits (B15)	Dry-Season V	
	Irogen Sulfide Odor (C1)	Crayfish Burro	
	dized Rhizospheres on Living R sence of Reduced Iron (C4)		sible on Aerial Imagery (C9) ressed Plants (D1)
	ent Iron Reduction in Tilled Soil		
	n Muck Surface (C7)	Shallow Aquit	
	er (Explain in Remarks)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)	,	✓ FAC-Neutral	
Field Observations:			,
Surface Water Present? Yes No _ ✓ _ De	pth (inches):		
Water Table Present? Yes No _ ✓ _ De	pth (inches):		
	pth (inches):	Wetland Hydrology Present	t? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well,		ons). if available:	
		,,	
Description			
Remarks: The hydrologic regime is seasonally sa	turated, with rechard	e hydrology. The we	etland receives runoff
from the adjacent dirt road.			
The adjacent ant read.			

### **VEGETATION** – Use scientific names of plants.

<b>'EGETATION</b> – Use scientific names of plants.				Sampling Point: wirc029f_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <i>Fraxinus nigra</i>				Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant Species Across All Strata:4 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 75.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	40.0	= Total Cov	ver	OBL species <u>55</u> x 1 = <u>55</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>44</u> x 2 = <u>88</u>
1. Corylus cornuta	5.0	Υ	FACU	FAC species12 x 3 =36
2.				FACU species5 x 4 =20
3.				UPL species0 x 5 =0
4				Column Totals:116 (A)199 (B)
5				Prevalence Index = B/A =1.72
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )				3 - Prevalence Index is ≤3.0¹
Calamagrostis canadensis	30.0	V	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Carex crinita			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Prunella vulgaris</u>		N	FAC	
_		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Scirpus cyperinus				be present, unless disturbed or problematic.
5. <u>Symphyotrichum lateriflorum</u>		N	FAC	Definitions of Vegetation Strata:
6. Rubus pubescens		_N_	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Acer rubrum		N	FAC	at breast height (DBH), regardless of height.
8. <i>Fraxinus nigra</i> 9.			FACW	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	71	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')				
1				
2.				
3				Hydrophytic Vegetation
4				Present? Yes _ / No
Demonstra, (Include photo purchase have as as a second		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate s The wetland is a black ash swamp that	has be	en heav	ilv distu	rbed by logging activity, and as such

the wetland has become more open with a thicker herbaceous layer.

SOIL Sampling Point: wirc029f\_w

Profile Des	cription: (Describe	to the dep	th needed				or confirm	the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (n		<u>Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	100	00101 (11	noist)	70	Турс		SICL	Remains
6-14	10YR 4/2		5YR	4/6	5	С	M		Prominent redox
<sup>1</sup> Type: C=C	Concentration, D=Dep	letion, RM	=Reduced N	Лatrix, MS	=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	_							s for Problematic Hydric Soils <sup>3</sup> :
Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Stripped Dark St	ipipedon (A2) distic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface eark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, No	/ILRA 1498	MLi Thin D Loamy Loamy Deplet Redox Deplet Redox	RA 149B) park Surfa w Mucky M w Gleyed M ed Matrix Dark Sur ed Dark S Depressi	lineral (F1 Matrix (F2) (F3) face (F6) Surface (F ons (F8)	.RR R, Mi ) (LRR K )	_RA 149B) , L)	Coast 5 cm I Dark \$ Polyva Thin E Iron-M Piedm Mesic Red P Very \$ Other	Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) mont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	Layer (if observed):								-
Туре: <u>сс</u>	obble								
	nches): <u>14</u>							Hydric Soi	I Present? Yes No
Remarks: Redox is	s present in the	e soil be	elow a c	lark su	rface l	ayer.			



wirc029f\_w\_N



wirc029f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW	
File #: wirc029	Date of visit(s): 10/01/2019	
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:
Lat: <u>46.400403</u> Long: <u>-90.542912</u>	Watershed: LS13, Tyler Forks	
County: Iron Town/City/Village: Anderson town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: T3K	
5351B Gogebic silt loam	Wetland Type(s): PFO - hardwood swamp	
Field Verified:		
Series not verified. Soils were silty clay loam throughout the profile.	Wetland Size: 0.03	Wetland Area Impacted 0.03
	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology. The wetland receives runoff from the adjacent dirt road.	The hardwood s	wamp is dominated by nd Calamagrostis

SITE MAP		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 13	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3		N N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
	N	N	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>&gt; 45 days</u>
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
. 1	\ <u>'</u>		
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	l IV	I IN	wouldno is willing wellinead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: the wetland is located off a logging road on county land but is not easily accessible WH-2: shrub stratum is present but coverage is <10% ST-3: vegetation is still dense after logging as a result of increased herbaceous vegetation Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian Deer Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Frogs Υ Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Traine Community intogrety (Circle)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Corylus cornuta			PFO	Uncommon
Calamagrostis canadensis			PFO	Common
Carex crinita			PFO	Common
Prunella vulgaris			PFO	Uncommon
Scirpus cyperinus			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Acer rubrum			PFO	Uncommon
Fraxinus nigra			PFO	Uncommon
-				

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has low species diversity, and as a result of logging, floristic integrity has been decreased.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
					Filling, berms (non-impounding)	
					Drainage – tiles, ditches	
	V				Hydrologic changes - high capacity wells,	
	X				impounded water, increased runoff	
	Х		Н	С	Point source or stormwater discharge	
					Polluted runoff	
					Pond construction	
					Agriculture – row crops	
					Agriculture – hay	
					Agriculture – pasture	
	Х		Н	С	Roads or railroad	
					Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
	.,			С	Removal of herbaceous stratum – mowing,	
	X		L		grading, earthworms, etc.	
V	X X X H C	0	Removal of tree or shrub strata – logging,			
X		X	н	C	unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
					Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland has been heavily impacted by historic and current logging practices, and is stressed by the roads and
machinery associated with this activity.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

#### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, disturbed and logged
Human Use Values	Marginal hunting use
Wildlife Habitat	Potential deer or avian habitat
Fish and Aquatic Life Habitat	Habitat provided after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Stores runoff from the adjacent road, closed basin
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

## **Section 4: Project Impact Assessment**

## Brief Project Description Enbridge Line 5 pipeline route analysis.

## **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iro</u>	າ	Sampling Date: 2019-10-01
Applicant/Owner: Enbridge		State: WI	Sampling Point: wirc029 υ
Investigator(s): JSW/BRG	Section, Township	o, Range: <u>045N-001W-0</u>	06
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic silt loam, 2			
Are climatic / hydrologic conditions on the site typic	, , , , , ,	•	
Are Vegetation, Soil, or Hydrology	•		
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach sit	e map showing sampling po	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No _ ✓ Is the Sam		
	No✓ within a W	etland? Yes	No/
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here of The upland is located in a recent)		forest	
The upland is located in a recent	y logged mesic nardwood	101631.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; of	heck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pat	tterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Li	
	Marl Deposits (B15)		Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Buri	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		tressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S		
	Thin Muck Surface (C7)	Shallow Aqui	
	Other (Explain in Remarks)	· -	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Preser	it? Yes No √
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspec	tions), if available:	
Remarks:			
No indicators of wetland hydrolog	y were observed.		

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wirc029 u
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum			· · · · · · · · · · · · · · · · · · ·	Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)
2. <u>Tilia americana</u>			FACU	
3. <u>Betula papyrifera</u>				Total Number of Dominant Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6			·	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	65.0	= Total Co	ver	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>0.0</u> x 2 = <u>0.0</u>
1. Corylus cornuta	25.0	<u>Y</u>	<u>FACU</u>	FAC species 10.0 x 3 = 30.0
2				FACU species <u>170.0</u> x 4 = <u>680.0</u> UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals: 180.0 (A) 710.0 (B)
4				
5				Prevalence Index = B/A = 3.9
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. <u>Mitchella repens</u>	50.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>			<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex pedunculata</u>	10.0	N_	FAC	4
4. <u>Carex gracillima</u>		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	90.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Co	ver	Present? Yes No✓_
Remarks: (Include photo numbers here or on a separate	sheet.)			<u> </u>
Remarks: (Include photo numbers here or on a separate see The vegetation is dominated by sugar research		nd partr	ridgeber	ry.

SOIL Sampling Point: wirc029\_u

Profile Desc	cription: (Describe t	o the dept	h needed to docum	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth	Matrix			x Feature:		1 2	Tections	Demonder.
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-8	7.5YR 2.5/3	100		· - <u></u>			SICL	
				. <u></u>				
					-			
					-			
	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil			Daharaha Dala	0(	(OO) (I DI			or Problematic Hydric Soils <sup>3</sup> :
Histosol	pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRI	κк,		rairie Redox (A16) ( <b>LRR K, L, MLRA 149B</b> )
	istic (A3)		Thin Dark Surfa		RR R, MI	RA 149B)	5 cm Mu	icky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	,	Loamy Mucky N			, L)		rface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	(//11)	Loamy Gleyed I Depleted Matrix		2)			rk Surface (S8) (LRR K, L)
	ark Surface (A12)	(A11)	Depleted Matrix Redox Dark Sui					nganese Masses (F12) ( <b>LRR K, L, R</b> )
	/lucky Mineral (S1)		Depleted Dark S					nt Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)							ent Material (F21)
	l Matrix (S6) Irface (S7) (LRR R, M	LRA 149B	)					allow Dark Surface (TF12) Explain in Remarks)
	, , ,		,					,
	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: <u>ro</u>							Hydric Soil P	resent? Yes No _✓_
Remarks:	ches): <u>8</u>						Tryunc con i	resent: res No
	ators of hydric	soil we	re observed					
i to intaiot	atoro or riyano	0011 110						



wirc029\_u\_E



wirc029\_u\_N

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloca	tion Proiect	City/C	County: <u>Iron</u>	1		Sampling Date:	2019-10-01
Applicant/Owner: Enbridge	•						
Investigator(s): NTT/ARK/N							
Landform (hillslope, terrace, etc.):							
Subregion (LRR or MLRA): North							
Soil Map Unit Name: <u>Lupton-</u>		•	•	•			
Are climatic / hydrologic condition		-					
Are Vegetation, Soil							<u>√</u> No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? (	(If needed, e	xplain any answer	s in Remarks.)	
SUMMARY OF FINDINGS	- Attach site n	nap showing sam	npling poi	nt locatio	ns, transects,	important fe	atures, etc.
Hydrophytic Vegetation Present	? Yes ✓	No	Is the Sam	pled Area			
Hydric Soil Present?		No	within a We	etland?	Yes <u>√</u>	No	
Wetland Hydrology Present?		No	If yes, optio	nal Wetland	Site ID:		
Remarks: (Explain alternative p	procedures here or in	a separate report.)					
Wet forest community	near an acce	ss road. Featui	re associ	ated with	n waterbody	feature sire	€001i.
HYDROLOGY							
Wetland Hydrology Indicators					Secondary Indicat		two required)
Primary Indicators (minimum of	-			-	Surface Soil (		
✓ Surface Water (A1)		Water-Stained Leave			Drainage Patt		
✓ High Water Table (A2)		Aquatic Fauna (B13) Marl Deposits (B15)			Moss Trim Lir Dry-Season V		
Saturation (A3) Water Marks (B1)		Hydrogen Sulfide Od			Dry-Season v Crayfish Burro		
Sediment Deposits (B2)		Oxidized Rhizosphere			Saturation Vis		agery (C9)
Drift Deposits (B3)		Presence of Reduced	_		Stunted or Str		
Algal Mat or Crust (B4)		Recent Iron Reductio			 ✓ Geomorphic F		,
Iron Deposits (B5)		Thin Muck Surface (C	C7)		Shallow Aquit		
Inundation Visible on Aerial	Imagery (B7)	Other (Explain in Ren	marks)		Microtopograp	ohic Relief (D4)	
Sparsely Vegetated Concav	ve Surface (B8)				✓ FAC-Neutral	Test (D5)	
Field Observations:							
		_ Depth (inches): 3					
		_ Depth (inches): 0					
Saturation Present? (includes capillary fringe)	Yes ✓ No	_ Depth (inches): 0		Wetland H	ydrology Present	t? Yes <u>√</u>	No
Describe Recorded Data (stream	n gauge, monitoring	well, aerial photos, pre	vious inspect	tions), if avai	lable:		
Remarks: Surface water present	t throughout n	ortions of the w	etland A	An interm	nittent strear	n flows thro	uah
wetland.	t tilloughout p	ordono or the w	rollaria. r	WI IIICIII	iittorit otroar	ii iiowo uiio	,agii
wettarid.							
1							

**VEGETATION –** Use scientific names of plants.

			Sampling Point: <u>wire002f_w</u>
Absolute % Cover		t Indicator Status	Dominance Test worksheet:
37.5	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:5(A)
			Total Number of Dominant
			Species Across All Strata: 6 (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 83.33 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
			OBL species x 1 = 25
			FACW species <u>74.5</u> x 2 = <u>149</u>
10	Y	FACW	FAC species <u>25</u> x 3 = <u>75</u>
			FACU species5 x 4 =20
			UPL species 0 x 5 = 0
			Column Totals: <u>129.5</u> (A) <u>269</u> (B)
			Prevalence Index = B/A = 2.08
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			∠ 2 - Dominance Test is >50%
	- Total Cc	, vei	3 - Prevalence Index is ≤3.0¹
25	Υ	OBI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation¹ (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			·
			Definitions of Vegetation Strata:
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
_			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
		IACVV	
			<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
			height.
07	= Total Co	ver	
			Hydrophytic
			Vegetation Present? Yes ✓ No
		37.5 Y 10 Y 10 Y 47.5 = Total Co 10 Y 5 Y 10 Y 5 N 5 N 5 N 5 N 5 N 5 N 67 = Total Co	

SOIL Sampling Point: wire002f\_w

Profile Des	cription: (Describe t	o the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix Color (moist)	%	Color (n		x Features	1	Loc <sup>2</sup>	Texture	Remarks
(inches) 0-6	10YR 2/1	100	COIOI (II	ioistj	%	Type'	LOC	SIL	Remarks
6-10	10YR 3/1	90	7.5YR	5/8	10	С	M	SICL	Prominent redox
,	7.5YR 4/4		7.5YR		15	С	M	CL	Prominent redox
Type: C=C Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Sandy I	concentration, D=Depl	etion, RM	=Reduced M  — Polyva  MLF  — Thin D — Loamy — Loamy — Deplet  _ Redox — Deplet	Matrix, MS  RA 149B)  ark Surfa  Mucky M  Gleyed I  ed Matrix  Dark Sur  ed Dark S	S=Masked v Surface ce (S9) (L dineral (F1	(S8) (LRI .RR R, MI I) (LRR K	ains.	²Locatior Indicators 2 cm I Coast 5 cm I Dark \$ Polyva Thin E Iron-M _ Piedm Mesic _	Prominent redox  The PL=Pore Lining, M=Matrix.  The for Problematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  The Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  The plane Below Surface (S8) (LRR K, L)  The plane Below Surface (S8) (LRR K, L)  The plane Below Surface (S9) (MLRA 149B)  The plane Below Surface (TF12)  The plane Below Surface (TF12)  The plane Below Surface (TF12)
	ırface (S7) ( <b>LRR R, M</b>								(Explain in Remarks)
	of hydrophytic vegetati  Layer (if observed):	on and w	etland hydro	logy mus	t be prese	ent, unles:	s disturbed o	or problemati	C.
Type:									
	iches):							Hydric Soi	I Present? Yes/ No
Remarks: Redox c	oncentrations <sub>l</sub>	oresen	t throug	hout th	ne Iowe	er prof	le.		



wire002f\_w\_NE



wire002f\_w\_NW

## Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name:	Evaluator(s):	
Line 5 Relocation Project	MAL/ARK/NTT	
File #:	Date of visit(s):	
wire002	10/01/2019	
Location:	Ecological Landsca	pe:
PLSS: <u>045N-001W-06</u>	North Central Forest	
1.4.40.405000	NA ( )	
Lat: 46.405092 Long: -90.543192	Watershed: LS13 Tyler Forks	
County: Iron Town/City/Village: Anderson town	Lo to Tylor Forko	
Town/City/Village.		
SITE DESCRIPTION		
Soils:	WWI Class:	
Mapped Type(s):	T3K	
5369E, 5141A, 5543B, Michigamme-Schweitzer-Peshekee-Rock outcrop complex, 35 to 55 percent slopes, very stony, Lupton-Pleine-Cathro complex, 0 to 1 percent slopes, Chabeneau-Annalake complex, 0 to 6 percent slopes	Wetland Type(s):	
F: 1137 :6: 1	PFO - Hardwood	l Swamp
Field Verified:		
The soil series is not verified. The soils consist of	Wetland Size:	Wetland Area Impacted
a silt loam over a silty clay loam over a clay loam.		0.10
	Vegetation:	
Hydrology:	Plant Community D	,
The small basin feature is saturated with recharge hydrology and standing		ensely vegetated with an
water throughout. Presence of moss clearly indicates level of inundation	herbaceous laye	r containing Canada
and water line. The wetland is associated with waterbody sire001e and	bluejoint, Carex	bromoides and a canopy of
the ephemeral channel cuts through wetland and disperses.	black ash, and q	uaking aspen.
	<u>'</u>	

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Υ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Along a trail
2	Ν	Ν	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	1 1	11	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	Υ	Υ	Ephemeral pond with water present > 45 days
10	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ζ	Ν	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP	-	-	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	147 (	14/ (	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3			Water new through wetland is 1401 orial melized
	V		Dense persistent vegetation
1 / 1	Y	Υ	Dense, persistent vegetation
4	N	Y N	Evidence of flashy hydrology
5	N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow
5 6	N N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
5 6 7	N N N	Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland
5 6 7 8	N N N	Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
5 6 7 8 WQ	N N N N	Y N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
5 6 7 8 WQ 1	N N N N	Y N N N N N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
5 6 7 8 WQ 1 2	N N N N N	Y N N N N N Y Y	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with ≤10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet
5 6 7 8 WQ 1 2 3	N N N N N Y	Y N N N N N Y Y Y	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with <10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet  Water flow through wetland is NOT channelized
5 6 7 8 WQ 1 2 3 4	N N N N N Y Y	Y N N N N N Y Y Y	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with <10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet  Water flow through wetland is NOT channelized  Vegetated wetland associated with a lake or stream
5 6 7 8 WQ 1 2 3 4	N N N N N Y Y	Y N N N N N Y Y Y Y	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with <10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet  Water flow through wetland is NOT channelized  Vegetated wetland associated with a lake or stream  Dense, persistent vegetation
5 6 7 8 WQ 1 2 3 4 5	N N N N N Y Y Y Y	Y N N N N N Y Y Y Y N	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with ≤10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet  Water flow through wetland is NOT channelized  Vegetated wetland associated with a lake or stream  Dense, persistent vegetation  Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N N Y Y	Y N N N N N Y Y Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N N Y Y Y Y	Y N N N N N Y Y Y Y N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N N Y Y Y Y N N N	Y N N N N N Y Y Y Y N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N Y Y Y Y N N N N N N N N N N N N	Y N N N N N Y Y Y Y N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N Y Y Y Y N N N N N N N N N N N	Y N N N N N N Y Y Y N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N Y Y Y Y N N N N N N N N	Y N N N N N N N Y Y Y Y N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N Y Y Y Y N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N N N N N N N N N N N N N N	Y N N N N N N Y Y Y Y N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N Y Y Y Y N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	st: direct ok nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
WII	iller, etc.	
Observed	Potential	
	Υ	les habitat for arboreal species, pollinators (seasonally), amphibians and reptiles due to prox
Y	Υ	Birds
Fic	sh and Agus	atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

WH-7: Canopy cover provides habitat for multiple of the indicated songbirds. ST-3: Herbaceous layer is densely vegetated.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	conservative species represented
NHI plant community ranking	S4	S3 🗸	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗌	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 <u> </u>	23-32 4.3-4.7	>32

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Acer rubrum			PFO	Uncommon
llex verticillata			PFO	Rare
Corylus cornuta			PFO	Rare
Calamagrostis canadensis			PFO	Common
Carex bromoides			PFO	Uncommon
Rubus pubescens			PFO	Rare
Solidago gigantea			PFO	Rare
Matteuccia struthiopteris			PFO	Rare
Symphyotrichum lanceolatum			PFO	Rare
Athyrium angustum			PFO	Rare
Ranunculus recurvatus			PFO	Rare

#### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Moderate florisitic integrity with good diversity and minimal invasive species over. The feature show signs of historical disturbance but is densely vegetated.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X	X	L	С	grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		L	С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Historical logging evident due to age of trees and lack of stumps. The buffer appears influenced by earthworms. A
active trail is present within the wetland buffer.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			<b>SIGNIFICANC</b>	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE					
Floristic Integrity	Moderate overall floristic integrity with dense, native, vegetation across three strata.					
Human Use Values	An active trail is located near to the wetland					
Wildlife Habitat	Basin with moderate diversity in plant species, has a mixed canopy and provides some aquatic habitat due to stream.					
Fish and Aquatic Life Habitat	The feature likely supports standing water seasonally and has a perennial waterbody associated, providing habitat for amphibians, aquatic invertebrates.					
Shoreline Protection	N/A					
Flood and Stormwater Storage	The basin is capable of holding storm water due to geomorphic position and dense vegetation.					
Water Quality Protection	Densely vegetated and associated with a stream.					
Groundwater Processes	The feature possibly experiences recharge as well as discharge processes.					

## **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

## **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	ation Project	City/C	County: <u>Iron</u>		Sampling Date: <u>2019-10-01</u>	
Applicant/Owner: Enbridge	•				_ Sampling Point: wire002_u	
Investigator(s): NTT/MAL//			Section, Township, Range: 045N-001W-06			
					Slope (%): <u>0-2%</u>	
					Datum: WGS84	
			_		ation:	
Are climatic / hydrologic condition				<u>_</u>		
					resent? Yes <u>√</u> No	
Are Vegetation, Soil						
	-					
SUMMARY OF FINDING	S – Attach sit	e map snowing san	ipling point locat	ions, transects,	important features, etc.	
Hydrophytic Vegetation Preser	nt? Yes	✓ No	Is the Sampled Area			
Hydric Soil Present?		No <u></u> ✓	within a Wetland?	Yes	No <u></u>	
Wetland Hydrology Present?		No <u></u>	If yes, optional Wetla	nd Site ID:		
Remarks: (Explain alternative The upland point is lo	procedures here c	or in a separate report.) n a mesic hardwoo	nd forest			
The upland point is it	scated within	i a mesic narawo	od forest.			
HYDROLOGY						
Wetland Hydrology Indicator	rs:			Secondary Indicat	ors (minimum of two required)	
Primary Indicators (minimum c	of one is required; of	check all that apply)				
Surface Water (A1)		Water-Stained Leave		Drainage Patt		
High Water Table (A2)		Aquatic Fauna (B13)				
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burro	· · ·	
Sediment Deposits (B2)		Oxidized Rhizospher			sible on Aerial Imagery (C9)	
Drift Deposits (B3) Algal Mat or Crust (B4)		<ul><li>Presence of Reduced</li><li>Recent Iron Reduction</li></ul>	` '	Stunted or Sti	ressed Plants (D1)	
Iron Deposits (B5)		Thin Muck Surface (0				
Inundation Visible on Aeric	al Imagery (B7)	Other (Explain in Rer		Shallow Aquitard (D3) Microtopographic Relief (D4)		
Sparsely Vegetated Conc	,	Other (Explain in real	nanoj	FAC-Neutral		
Field Observations:					. 551 (2 5)	
Surface Water Present?	Yes No	✓ Depth (inches):				
Water Table Present?		✓ Depth (inches):				
Saturation Present?		✓ Depth (inches):		l Hydrology Present	!? Yes No <u>√</u>	
(includes capillary fringe)  Describe Recorded Data (stream)	om gouge monitor	ing wall carial photon pro	vious inspections) if o	voilable		
Describe Recorded Data (sites	am gauge, monitor	ing well, aeriai priotos, pre	ivious irispections), ii a	valiable.		
Remarks:	: :					
No wetland hydrolog	y indicators	were observed.				

**VEGETATION –** Use scientific names of plants.

T 01 1 (D) 1 201	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Acer saccharum				That Are OBL, FACW, or FAC:3(A)
2. <u>Tilia americana</u>				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)
5				That Are OBL, FACW, or FAC: 60.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60	= Total Cov	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species5 x 2 =10
1. <u>Ostrya virginiana</u>	<u> 17.5</u>	<u>Y</u>	<u>FACU</u>	FACULTURE 15 x 3 = 45
2				FACU species <u>77.5</u> x 4 = <u>310</u> UPL species <u>0</u> x 5 = <u>0</u>
3				Column Totals: 97.5 (A) 365 (B)
4				(b)
5				Prevalence Index = B/A = 3.74
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Carex pedunculata	10	<u>Y</u>	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Dryopteris intermedia	5	Y	FAC	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Fraxinus nigra</u>	5	Y	<b>FACW</b>	The discrete result is self-order to the discrete result in the disc
4. Brachyelytrum aristosum			_NL_	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7.				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic Vegetation
4		= Total Cov		Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate		= Total Cov	ver	
Mesic hardwood community dominated		ar mapl	e. Spars	se herb stratum. Braun-Blanquet scale
used.	, 0	·	·	·

Sampling Point: wire002\_u

SOIL Sampling Point: wire002 u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth	Matrix (mariet)	0/		( Features	<b>T</b> 1	Loc <sup>2</sup>	To done
(inches) 0-6	Color (moist) 10YR 2/2	100	Color (moist)	%	Type <sup>1</sup>	LOC	Texture Remarks
6-12	7.5YR 3/3	100					
							ī
Type: C=C Hydric Soil Histic E Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy C Sandy F Stripped		- - - - - - - - - -	Polyvalue Below MLRA 149B) Thin Dark Surfar Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	v Surface ce (S9) ( <b>L</b> lineral (F1 Matrix (F2) (F3) face (F6) Surface (F	(S8) (LRF RR R, MI ) (LRR K	R R, _RA 149B)	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (LRR K, L, MLRA 149B)  Coast Prairie Redox (A16) (LRR K, L, R)  5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  Dark Surface (S7) (LRR K, L)  Polyvalue Below Surface (S8) (LRR K, L)  Thin Dark Surface (S9) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Piedmont Floodplain Soils (F19) (MLRA 149I)  Mesic Spodic (TA6) (MLRA 144A, 145, 149E)  Red Parent Material (F21)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)
	f hydrophytic vegetat		land hydrology mus	t be prese	nt, unless	s disturbed	d or problematic.
	Layer (if observed):						
Type: Depth (in	ches):						Hydric Soil Present? Yes No✓
Remarks:	c soil indicator		nt.				



wire002\_u\_E



wire002\_u\_W

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	County: <u>Iron</u>		Sampling Date: 2019-10-01	
				Sampling Point: wire003f w	
Investigator(s): NTT/ARK/MAL				· -	
Landform (hillslope, terrace, etc.): Depressio					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Chabeneau-Annala	uke complex 0 to 6	S percent clopes	NWI elegation	Fign: DFO1C	
Are climatic / hydrologic conditions on the site typi					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problema	atic? (If needed, ex	plain any answers	in Remarks.)	
SUMMARY OF FINDINGS - Attach sit	te map showing sam	pling point location	ıs, transects, i	important features, etc.	
Hydrophytic Vegetation Present? Yes	✓ No	Is the Sampled Area			
	✓ No	within a Wetland?	Yes <u>√</u>	No	
Wetland Hydrology Present? Yes		If yes, optional Wetland S	Site ID:		
Remarks: (Explain alternative procedures here of	or in a separate report.)				
A wet forest community associate	ed with a propose	d project access r	oad.		
HYDROLOGY					
Wetland Hydrology Indicators:		<u>s</u>	Secondary Indicato	ors (minimum of two required)	
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Ci		
Surface Water (A1)	Water-Stained Leave		Drainage Patte		
High Water Table (A2)	Aquatic Fauna (B13)	_	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season W	ater Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odd	or (C1)	Crayfish Burro	ws (C8)	
Sediment Deposits (B2)	Oxidized Rhizosphere		Saturation Visi	ble on Aerial Imagery (C9)	
Drift Deposits (B3)	Presence of Reduced	. ,		essed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reductio		✓ Geomorphic Polymer		
Iron Deposits (B5)	Thin Muck Surface (C		Shallow Aquita		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Ren		Microtopograpl		
Sparsely Vegetated Concave Surface (B8)			✓ FAC-Neutral T	est (D5)	
Field Observations:	( Donath (inches)				
	✓ Depth (inches):				
	✓ Depth (inches): ✓ Depth (inches):		drology Drocont	? Yes <u>√</u> No	
(includes capillary fringe)				r res <u>v</u> No	
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, pre	vious inspections), if availa	able:		
Remarks:					
Feature likely with a seasonally s	saturated hydrolog	ic regime.			

**VEGETATION –** Use scientific names of plants.

<b>VEGETATION</b> – Use scientific names of plants.				Sampling Point: wire003f w
Tree Stratum (Plot size: 30')	Absolute % Cover			Dominance Test worksheet:
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2				Total Number of Dominant Species Across All Strata: 8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
4.51	50	= Total Co	ver	OBL species <u>22.5</u> x1 = <u>22.5</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>27.5</u> x 2 = <u>55</u> FAC species <u>60</u> x 3 = <u>180</u>
1. <u>Ilex verticillata</u>	<u>17.5</u>	<u>Y</u>	FACW	FACU species x 4 = 8
2				UPL species
3				Column Totals: 112 (A) 265.5 (B)
4				Column Totals (A) (B)
5				Prevalence Index = B/A =2.37
6.				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7	17.5			∠ 2 - Dominance Test is >50%
	17.5	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Calamagrostis canadensis	17.5	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex crinita			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Symphyotrichum lateriflorum</u>				
4. Fraxinus nigra				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	_			be present, unless disturbed or problematic.
		<u>Y</u>	FACW	Definitions of Vegetation Strata:
6. <u>Cornus canadensis</u>				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Fragaria virginiana</u>			<u>FACU</u>	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		-		Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	44.5		Wer	height.
Manda Vina Charles (District)	<del>- 11.0</del>	- Total Co	VCI	
Woody Vine Stratum (Plot size:30')				
1				
2				
3		-		Hydrophytic
4				Vegetation   Present?
	0.0	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s Quaking aspen dominated canopy with bluejoint. Braun-Blanquet scale used.	heet.)			l b layer. Ground layer includes

SOIL Sampling Point: wire003f\_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix				x Features	1	. 2			
(inches)	Color (moist) 10YR 3/2		Color (r	-	<u>%</u> 15	Type'	Loc <sup>2</sup>	Texture I	Remarks  Draminant radov	
0-6		85	7.5YR				<u> </u>	<u>-</u>	Prominent redox	
6-12	<u>5YR 4/3</u>	_80_	<u>5YR</u>	5/8	_20_	<u>C</u>	<u> </u>		Prominent redox	
					· ·				-	
<sup>1</sup> Type: C=C <b>Hydric Soil</b>	Concentration, D=Depl	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³:	
Histoso	I (A1)		-		w Surface	(S8) ( <b>LR</b>	R R,	2 cm l	Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )	
·	pipedon (A2) listic (A3)			<b>RA 149B</b> ) Oark Surfa		.RR R, M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	en Sulfide (A4) d Layers (A5)			-	/lineral (F1 Matrix (F2		(, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
	ed Below Dark Surface	(A11)		ted Matrix		)			Dark Surface (S9) (LRR K, L)	
Thick D	ark Surface (A12)	, ,	_∠ Redox	Dark Su	rface (F6)			Iron-N	Manganese Masses (F12) (LRR K, L, R)	
-	Mucky Mineral (S1)				Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)	
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (Fo)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
Stripped	d Matrix (S6) urface (S7) ( <b>LRR R, M</b>	LRA 149	В)					<ul><li>Very Shallow Dark Surface (TF12)</li><li>Other (Explain in Remarks)</li></ul>		
	of hydrophytic vegetati	on and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.	
	Layer (if observed):									
Type: Depth (in	nches):							Hydric Soi	I Present? Yes No	
Remarks:						::Io				
Redox c	oncentrations <sub>l</sub>	preser	it throug	nout tr	ne proi	iie.				



wire003f\_w\_N



wire003f\_w\_S

## Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/ARK		
File #:	Date of visit(s):		
wire003	10/01/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-001W-06</u>	North Central Forest		
	North Ochtair olest		
Lat: <u>46.405163</u> Long: <u>-90.542792</u>	Watershed:		
	LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
5543B Chabeneau-Annalake complex, 0 to 6 percent slopes	Wetland Type(s):		
	PFO - Hardwood Swamp		
Field Verified:		•	
Series not verified. Soils were loam throughout	Wetland Size:	Wetland Area Impacted	
the profile.	0.07	0.07	
'	Vegetation:		
	Plant Community D	escription(s):	
Hydrology:	The wetland is densely vegetated with an herbaceous		
The feature is located within a small basin along	layer containing Calamagrostis canadensis and a canopy		
an access road. There appears to be seasonal		tremuloides. Ilex verticillata is	
• •	present within the sh	nrub layer.	
saturation and recharge hydrology.			
	l		

SITE MAP

#### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	
	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present <u>&gt;</u> 45 days
10	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP	IN		Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	INA	INA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NΙΛ	NIA	Densely rooted emergent or woody vegetation
ST	NA	NA	Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Υ	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N N	Natural land cover in 100m buffer area < 50%
GW	IN	IN	Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
	N	N	Wetland is within a wellhead protection area
5	IN		The state of the s

ST-3: herbaceous layer is densely vegetated ST-5: may receive runoff from the adjacent access road WH-9,10, FA-2: likely supports standing water seasonally Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Amphibians, arboreal species Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

WH-7: canopy cover provides habitat for multiple of the indicated songbirds

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	integrity (or ore)						
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Abundant
llex verticillata			PFO	Common
Calamagrostis canadensis			PFO	Common
Carex crinita			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon
Fraxinus nigra			PFO	Uncommon
Cornus canadensis			PFO	Uncommon
Fragaria virginiana			PFO	Uncommon

#### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The florsitic integrity is moderate, with good diversity and no invasive species cover. The feature show signs of historical disturbance but is densely vegetated. However, one species, Calamagrostis canadensis, dominates the herbaceous layer.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
71100 (7151)			2010.	Troquonoy	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		М	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,	.,			Removal of herbaceous stratum – mowing,
	X	X	M	С	grading, earthworms, etc.
				_	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Historical logging is evident due to age of trees and lack of stumps. The buffer area appears influenced by earthworms.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Moderate overall floristic integrity with dense, native vegetation
Human Use Values	Area is not accessible to the public or used for recreation or research
Wildlife Habitat	Basin with moderate diversity of plant species, has a mixed canopy, provides some aquatic habitat seasonally
Fish and Aquatic Life Habitat	Likely supports standing water seasonally providing limited habitat for amphibians and aquatic insects
Shoreline Protection	N/A
Flood and Stormwater Storage	Basin is capable of holding stormwater due to geomorphic position and dense vegetation
Water Quality Protection	Densely vegetated but not directly associated with a waterbody
Groundwater Processes	Does not show groundwater indicators and is fed by precipitation and runoff

## **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

## **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	Project	City/County: Iron			Sampling Date: 2019-10-01		
	-				Sampling Point: wire003_L		
Investigator(s): NTT/DGL		Section, Township, Range: 045N-001			)6		
		Local relief (concave, convex, none): Non					
Subregion (LRR or MLRA): Northcentra	al Forests	46 405122	Lor	na: -90.543085	Datum: WGS84		
Soil Map Unit Name: Chabeneau-							
Are climatic / hydrologic conditions on th		•	•	•			
Are Vegetation, Soil, or F							
Are Vegetation, Soil, or I	-						
			,		•		
SUMMARY OF FINDINGS – At	tach site ma	ip snowing sam	ipling point i	locations, transects	, important features, etc.		
Hydrophytic Vegetation Present?	Yes <u>√</u>	No	Is the Sample				
Hydric Soil Present?	Yes		within a Wetla	nd? Yes	No <u></u>		
Wetland Hydrology Present?	Yes		If yes, optional	Wetland Site ID:			
Remarks: (Explain alternative procedu The upland point is located	res here or in a I within a n	separate report.)	nd forest				
The upland point is located	a within a n	nesie nardwoc	od forest.				
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is	required; check	all that apply)					
Surface Water (A1) Water-Stained Leave							
High Water Table (A2)				Moss Trim Lines (B16)			
Saturation (A3) Marl Deposits (B15)				Dry-Season Water Table (C2)			
Water Marks (B1)		rogen Sulfide Odor (C1) Crayfish Burrows (C8) dized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imager					
Sediment Deposits (B2)		_	Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)				
Drift Deposits (B3) Algal Mat or Crust (B4)		Presence of Reduced Recent Iron Reductio	, ,		Position (D2)		
Algal Mat of Crust (B4) Iron Deposits (B5)		Thin Muck Surface (C					
Inundation Visible on Aerial Image	· · · · · · · · · · · · · · · · · · ·	Other (Explain in Ren	,	Shallow Aquitard (D3) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surfa	• • • —	other (Explain in Rei	nano)	FAC-Neutral			
Field Observations:	200 (20)						
Surface Water Present? Yes	No ✓	Depth (inches):					
		Depth (inches):					
		Depth (inches):		etland Hydrology Presen	it? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge	o monitoring wo	all agrial photos pro	vious inspection	s) if available:			
Describe Necorded Data (stream gaugi	e, monitoring we	ni, aeriai priotos, pre	vious irispections	s), ii avaliable.			
Remarks:							
No hydric soil indicators pr	esent.						

**VEGETATION –** Use scientific names of plants.

		VEGETATION – Use scientific names of plants.					
Absolute <u>% Cover</u>		nt Indicator Status	Dominance Test worksheet:				
50	<u>Y</u>	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)				
			Total Number of Dominant				
			Species Across All Strata:3 (B)				
			Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)				
			That Are OBE, I ACW, OF I AC.				
			Prevalence Index worksheet:				
			Total % Cover of: Multiply by:				
50=	= Total Co	over	OBL species 0 x 1 = 0 FACW species 12 x 2 = 24				
			FAC species 57 x 3 = 171				
			FACU species 22.5 x 4 = 90				
			UPL species x 5 = 0				
			Column Totals: <u>91.5</u> (A) <u>285</u> (B)				
			Prevalence Index = B/A =3_11				
			Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation				
_			∠ 2 - Dominance Test is >50%				
0 = Total Cover		over	3 - Prevalence Index is ≤3.0 <sup>1</sup>				
17.5	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
			Definitions of Vegetation Strata:				
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
		FACW	Sapling/shrub – Woody plants less than 3 in. DBH				
			and greater than or equal to 3.28 ft (1 m) tall.				
			Herb – All herbaceous (non-woody) plants, regardless				
			of size, and woody plants less than 3.28 ft tall.				
			Woody vines – All woody vines greater than 3.28 ft in				
			height.				
			Hydrophytic				
			Vegetation Present? Yes / No				
0.0	= Total Co	over	100 <u>v</u> 100 <u>u</u>				
<u>0.0</u> sheet.)	= Total Co		Present? Yes✓ No Braun-Blanquet scale used.				

SOIL Sampling Point: wire003\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth Matrix (inches) Color (moist) %		Redox Features  Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>			_Loc <sup>2</sup>	Texture	Remarks		
0-10	10YR 2/2		Color (moist)	%	_Type'	LOC	SIL	Remarks	
	5YR 2.5/2						SIL		
10-14	011( 2.0/2	100		· ——			OIL		
				·					
				· ——					
				. ———					
				·					
	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix.	
Hydric Soil			Daharahia Balai		(CO) /L DE			oblematic Hydric Soils <sup>3</sup> :	
Histosol Histic E	pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(58) (LRF	κκ,		A10) ( <b>LRR K, L, MLRA 149B</b> ) • Redox (A16) ( <b>LRR K, L, R</b> )	
	istic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		e (S7) ( <b>LRR K, L</b> ) elow Surface (S8) ( <b>LRR K, L</b> )	
Deplete	d Below Dark Surface	(A11)	Depleted Matrix	(F3)			Thin Dark Su	ırface (S9) ( <b>LRR K, L</b> )	
	ark Surface (A12) /lucky Mineral (S1)	-	Redox Dark Su Depleted Dark \$					ese Masses (F12) ( <b>LRR K, L, R</b> ) podplain Soils (F19) ( <b>MLRA 149B</b> )	
-	Gleyed Matrix (S4)	- -	Redox Depress		')			c (TA6) (MLRA 144A, 145, 149B)	
-	Redox (S5)							Material (F21)	
	l Matrix (S6) rface (S7) ( <b>LRR R, M</b>	LRA 149B	)					n Dark Surface (TF12) in in Remarks)	
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.									
	Layer (if observed):								
Type: <u>cobble</u> Depth (inches): <u>14</u>							Hydric Soil Present? Yes No✓_		
Remarks:	Ciles). <u>14</u>								
	c soil indicator	s prese	nt. Cobble la	yer at f	ourtee	n inche	S.		



wire003\_u\_N



wire003\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>  Iron</u>	<u> </u>	Sampling Date: 2019-10-01
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	, Range: 045N-001W-0	)6
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 4			
Soil Map Unit Name: Gogebic silt loam, 2 to 6			
Are climatic / hydrologic conditions on the site typical for the		•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	naturally problematic? (	If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling poir	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes   ✓  Yes  ✓  Remarks: (Explain alternative procedures here or in a se	No within a We	pled Area etland? Yes✓ nal Wetland Site ID:	
The wetland is an artificial small fresh	wet meadow, and on	ly exists due to past	logging activity
creating compacted soils in the wetlan	d area. Logging has ı	ecently occurred in	the area.
HYDROLOGY			
Wetland Hydrology Indicators:			tors (minimum of two required)
Primary Indicators (minimum of one is required; check al	I that apply)	Surface Soil	
	ater-Stained Leaves (B9)	Drainage Pat	
	juatic Fauna (B13)	Moss Trim Li	
	arl Deposits (B15)	Dry-Season \	
	drogen Sulfide Odor (C1) didized Rhizospheres on Living F	Crayfish Burn	sible on Aerial Imagery (C9)
	esence of Reduced Iron (C4)		tressed Plants (D1)
	ecent Iron Reduction in Tilled So		
	in Muck Surface (C7)	Shallow Aqui	
	her (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No _✓ D	epth (inches):		
	epth (inches):		
	epth (inches):	Wetland Hydrology Presen	t? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well	, aerial photos, previous inspect	ions), if available:	
		<i>,</i> ,	
Remarks:			
The hydrologic regime is seasonally sa	aturated, with rechard	e hydrology. The w	etland receives runoff
from the adjacent compacted dirt loggi	_	, , ,,	
,	· ·		

# **VEGETATION** – Use scientific names of plants.

Total Objections (Distriction 201)	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1.0 (A)
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>61.0</u> x 1 = <u>61.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 = 40.0
1				FAC species <u>2.0</u> x 3 = <u>6.0</u>
2			<u> </u>	FACU species x 4 = 0.0
3				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: <u>83.0</u> (A) <u>107.0</u> (B)
5				Prevalence Index = B/A =1_3
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. Scirpus cyperinus	50.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Juncus effusus		N	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Impatiens capensis		N	FACW	
		N	FACW	¹Indicators of hydric soil and wetland hydrology must
		N		be present, unless disturbed or problematic.
5. Poa palustris			FACW	Definitions of Vegetation Strata:
6. <u>Symphyotrichum lateriflorum</u>		_N_	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Epilobium leptophyllum</u>		N	OBL	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12		-		<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	83.0	= Total Co	ver	No.grit.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Co	ver	165 <u>v</u> 16 <u>——</u>
Remarks: (Include photo numbers here or on a separate		1 . (.		Caller I are a sector I and an
The wetland is dominated by Scirpus c	yperinus	s aue to	its artifi	cial and compacted nature.

Sampling Point: wirc028e\_w

SOIL Sampling Point: wirc028e\_w

Profile Desc	cription: (Describe to	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Feature:	1		_		
(inches) 0-12	Color (moist) 7.5YR 2.5/2	<u>%</u>	Color (r	noist) 3/4	 5	Type'	Loc² M	SICL	Remarks  Diotingst rodgy	
						<u>C</u>				
12-20	5YR 4/3	95	<u>5YR</u>	4/6	5	_C	_M_	SICL	Distinct redox	
<sup>1</sup> Type: C=C Hydric Soil	oncentration, D=Deple	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1)				w Surface	(S8) ( <b>LR</b>	R R,	2 cm	Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )	
Black Hi	pipedon (A2) stic (A3)		Thin D		ice (S9) ( <b>I</b>		LRA 149B)	5 cm l	Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	en Sulfide (A4) d Layers (A5)			-	/lineral (F Matrix (F2		(, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface	(A11)	Deple	ted Matrix	(F3)			Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Nucky Mineral (S1)				rface (F6) Surface (F			Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy C	Gleyed Matrix (S4)			Depress		• ,		Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)	
-	Redox (S5) I Matrix (S6)								Parent Material (F21) Shallow Dark Surface (TF12)	
	rface (S7) (LRR R, M	LRA 149	В)						(Explain in Remarks)	
	f hydrophytic vegetation	on and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	С.	
Type:	Layer (if observed):									
Depth (in	ches):							Hydric Soi	I Present? Yes No	
Remarks:	present through							•		
, redex is	procent unou	9.10 0.1	р. о.							



wirc028e\_w\_N



wirc028e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wirc028	Date of visit(s): 10/01/2019		
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.399863</u> Long: <u>-90.540879</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: T3K		
5351B Gogebic silt loam	Wetland Type(s): PEM - fresh wet meadow		
Field Verified:			
Series not verified. Soils were silty clay loam throughout the profile.	Wetland Size: 0.02	Wetland Area Impacted 0.02	
	Vegetation: Plant Community [	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology. The wetland receives runoff from the adjacent dirt road.	The fresh wet meadow is dominated by Scirpus cyperinus.		

SITE MAP		

### SECTION 1: Functional Value Assessment

1 N N Used for recreation (hunting, birding, hiking, etc.). List: 2 N N Used for rectuaction of or scientific purposes 3 N Y Visually or physically accessible to public 4 N N N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N Lord Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to Archaeological or cultural resource site WH Wildliffe Habitat 1 N Y Wetland and contiguous habitat >10 acres 2 N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover ≥50%(south); 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N N plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for SGCN or birds listed in the Wi All-Bird Cons, Plan, or other plans 11 N N Sasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FFA Tish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 8 Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) · if no, not applicable 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Hatural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 8 Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) · if no, not appl		SECTION 1: Functional Value Assessment								
2 N N Used for educational or scientific purposes 3 N Y Visually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N Lor adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wildlife Habitat 1 N Y Wildlife Habitat 1 N Y Wildlife Habitat 2 N N 3 or more strata present (-10% cover) 3 N N Wilmin or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority fownship 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, weltand/upland complex,etc.) 7 N Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Part of a large habitat block that supports area sensitive species 11 N N Seasonally exposed mudiflats present 12 N N Portodes habitat scarce in the area (urban, agricultural, etc.) 13 N N Wiltand is connected or contiguous with perennial stream or lake 14 N N Seasonally exposed mudiflats present 15 N N N Ratural Heritage inventory (NHI) listed aquatic invertebrates 16 N N Standing water provides habitat for amphibians and aquatic invertebrates 17 N N N Seasonally exposed mudiflats present 18 N N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 19 Shortline Provides habitat for amphibians and aquatic invertebrates 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N N Seasonally exposed mudiflats present 12 N Y Vegetation is inundated in spring 13 N N N Ratural Heritage inventory (NHI) listed aquatic species w	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty						
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:						
3	2	N	N	Used for educational or scientific purposes						
A   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	N	Υ							
S N N	4		N							
S		- ' '								
Fig.	5	N	N							
The content of the	6	N	NI							
Wildlife Habitat   N		IN	IN							
1										
2		N.I.	V							
3			-							
4 N N Occurs in a Joint Venture priority township										
6         N         N         Occurs in a Joint Venture priority township           6         N         N         Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)           7         N         N         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         N         Part of a large habitat block that supports area sensitive species           9         N         N         Ephemeral pond with water present ≥ 45 days           10         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           11         N         N         Seasonally exposed mudflats present           12         N         Provides habitat scarce in the area (urban, agricultural, etc.)           FA         Fish and Aquatic Life Habitat           1         N         N         Wetland is connected or contiguous with perennial stream or lake           2         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Natural Heritage inventory (NHi) listed aquatic species within aquatic system           4         N         Y         Vegetation is inundated in spring           SP         Shoreline Protection	-									
For the content of										
N	-									
N	6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)						
8 N N Part of a large habitat block that supports area sensitive species  9 N N S Ephemeral pond with water present ≥ 45 days  10 N Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed muditats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 N N Wettand is connected or contiguous with perennial stream or lake  2 N Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N NAtural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  Shoreline Protection  1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  N Densely rooted emergent or woody vegetation  Storm and Floodwater Storage  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Water flow through wetland is NOT channelized  3 Y Y Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 Y Y Point or non-point source inflow  6 N N Impervious surfaces cover > 10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event wood water based on previous section  1 Y Y Basin wetland or constricted outlet  3 Y Y Water flow through wetland is NOT channelized  4 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N N Discharge to surface water from agricultural land is major hydrology source  9 N N N Stormwater or surface water from agricultural land is ma	7	N	N							
9										
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The state of the s	5	N	N	Wetland is within a wellhead protection area						

Se	ction 1 Com	nments (Refer to Section 1 numbers)
HU-1: too small to be FA-4: the wetland is		
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
Observed	Detential	Charical labitation manuals
Observed	Potential Y	Species/Habitat/Comments  Amphibians
	'	Amphibians
<b>-</b> :-		tic Life Habitet and Onesics Observations
FIS Lie	sn and Aqua sto direct of	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
	or anoor or	ost vation, other orgin, type of mastati mosting, opaniting, marcory droad, etc.
Observed	Potential	Species/Habitat
	Υ	Frogs
	Υ	Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Abundant
Juncus effusus			PEM	Common
Impatiens capensis			PEM	Common
Onoclea sensibilis			PEM	Uncommon
Poa palustris			PEM	Uncommon
Symphyotrichum lateriflorum			PEM	Uncommon
Epilobium leptophyllum			PEM	Rare

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has low species diversity and is filled with common species that grow well in disturbed areas.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
	Х				Hydrologic changes - high capacity wells,		
	^				impounded water, increased runoff		
	Х		Н	С	Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
	Х		Н	С	Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
	.,				Removal of herbaceous stratum – mowing,		
	X		L	С	grading, earthworms, etc.		
V	V	V			Removal of tree or shrub strata – logging,		
X	X	X	Н		unprescribed fire		
					Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
					Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		
					, ,		

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is an artificial feature that only exists due to soil compaction from past logging activity.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANCI	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>√</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, disturbed
Human Use Values	Very small, no recreation or research uses
Wildlife Habitat	No significant habitats
Fish and Aquatic Life Habitat	Habitat provided after rain events
Shoreline Protection	N/A
Flood and Stormwater Storage	Effectively stores stormwater, but very small size
Water Quality Protection	See above
Groundwater Processes	Groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	t City/Co	ounty: <u>Iron</u>	Sa	mpling Date: <u>2019-10-01</u>
Applicant/Owner: Enbridge				
Investigator(s): JSW/BRG				· -
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Gogebic silt loam, 2				
	•		•	
Are climatic / hydrologic conditions on the site typ				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology	naturally problema	tic? (If needed, ex	plain any answers in	n Remarks.)
SUMMARY OF FINDINGS – Attach si	te map showing sam	pling point location	s, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes _	No <u></u> ✓	Is the Sampled Area		
	No <u> </u>	within a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes _		If yes, optional Wetland S	Site ID:	
Remarks: (Explain alternative procedures here	or in a separate report.)	and format		
The upland is located near a trai	i in a mesic nardwo	ood forest.		
HYDROLOGY				
Wetland Hydrology Indicators:		<u> </u>	Secondary Indicators	s (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Cra	cks (B6)
Surface Water (A1)	Water-Stained Leaves	s (B9)	Drainage Patterr	ns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	_	Moss Trim Lines	s (B16)
Saturation (A3)	Marl Deposits (B15)	<del>-</del>	Dry-Season Wat	ter Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odo		Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizosphere			e on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced		Stunted or Stress	
Algal Mat or Crust (B4)	Recent Iron Reduction		Geomorphic Pos	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C Other (Explain in Rem		<ul><li>Shallow Aquitard</li><li>Microtopographic</li></ul>	
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Tes	
Field Observations:			170 Nedital 163	St (DO)
	✓ Depth (inches):			
	✓ Depth (inches):			
	✓ Depth (inches):		drology Present?	Yes No✓
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, prev	vious inspections), if availa	ADIE:	
Remarks:				
No indicators of wetland hydrolo	gy were observed.			

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wirc028 u
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Betula papyrifera				Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)
2. <u>Picea glauca</u>			FACU	
3. Fraxinus americana				Total Number of Dominant Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7	<u> </u>			Total % Cover of: Multiply by:
	<u>75.0</u> =	= Total Co	ver	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>0.0</u> x 2 = <u>0.0</u>
1. Corylus cornuta	10.0	Y	FACU	FAC species 0.0 x 3 = 0.0
2.	<u> </u>			FACU species 160.0 x 4 = 640.0
3				UPL species $10.0   x = 50.0$ Column Totals: $170.0   (A)   690.0   (B)$
4				
5				Prevalence Index = B/A = 4.1
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0 =			2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. <u>Pteridium aquilinum</u>	50.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Solidago canadensis		N	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Leucanthemum vulgare		N	UPL	
4. Acer saccharum		N	FACU	¹Indicators of hydric soil and wetland hydrology must
5. Mitchella repens		N	FACU	be present, unless disturbed or problematic.
-				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9			-	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	85.0 =	- Total Co	er	height.
Woody Vine Stratum (Plot size:30')		- Total Oo	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1				
2				
3	- ——— ·			Hydrophytic Vegetation
	- ——— ·			

SOIL Sampling Point: wirc028\_u

Profile Desc	cription: (Describe t	o the dept	h needed to docum	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth	Matrix			x Feature:		1 2	Tections	Days and a
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-8	7.5YR 2.5/3	100		· - <u></u>			SICL	
				. <u></u>				
					-			
					-			
				· <del></del>				
	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil			Daharaha Dala	0(	(OO) (I DI			or Problematic Hydric Soils <sup>3</sup> :
Histosol	pipedon (A2)		Polyvalue Below MLRA 149B)		(S8) (LRI	κк,		rairie Redox (A16) ( <b>LRR K, L, MLRA 149B</b> )
	istic (A3)		Thin Dark Surfa		RR R, MI	RA 149B)	5 cm Mu	icky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	,	Loamy Mucky N			, L)		rface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	(//11)	Loamy Gleyed I Depleted Matrix		2)			rk Surface (S8) (LRR K, L)
	ark Surface (A12)	(A11)	Depleted Matrix Redox Dark Sui					nganese Masses (F12) ( <b>LRR K, L, R</b> )
	/lucky Mineral (S1)		Depleted Dark S					nt Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)							ent Material (F21)
	l Matrix (S6) Irface (S7) (LRR R, M	LRA 149B	)					allow Dark Surface (TF12) Explain in Remarks)
	, , ,		,					,
	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: <u>ro</u>							Hydric Soil P	resent? Yes No _✓_
Remarks:	ches): <u>8</u>						Tryunc con i	resent: res No
	ators of hydric	soil we	re observed					
i to intaiot	atoro or riyano	0011 110						



wirc028\_u\_E



wirc028\_u\_N

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Iron		Sampling Date: 2019-10-19
Applicant/Owner: Enbridge		State: WI	Sampling Point: wira044f_w
Investigator(s): BRG/DGL	Section, Township,	Range: 045N-001W-0	06
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4			
Soil Map Unit Name: Gogebic silt loam, 6 to 18 pe			
Are climatic / hydrologic conditions on the site typical for this ti	•		
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology nate	urally problematic? (I	f needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling poir	it locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No _	within a Ma	oled Area etland? Yes <u>√</u>	No
Hydric Soil Present? Yes ✓ No_	<del></del>		
Wetland Hydrology Present? Yes No _ Remarks: (Explain alternative procedures here or in a separ		nal Wetland Site ID:	
The wetland is a hardwood swamp locate	ed downslope of a	logging road. The w	etland and
surrounding area has been logged in the	-		
marked for future cutting.	•		
_			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	Surface Soil	
1	Stained Leaves (B9)	Drainage Pa	
	c Fauna (B13)	Moss Trim Li	
	eposits (B15)		Water Table (C2)
Water Marks (B1) Hydrog	gen Sulfide Odor (C1)	Crayfish Burn	
	ed Rhizospheres on Living R		isible on Aerial Imagery (C9)
	nce of Reduced Iron (C4)		tressed Plants (D1)
	t Iron Reduction in Tilled Soi		
	luck Surface (C7)	Shallow Aqui	1 1
	(Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutral	Test (D5)
Surface Water Present? Yes _ ✓ No Depth	(inches): 0.2		
Water Table Present? Yes No _✓ Depth			
Saturation Present? Yes No _✓ Depth		Wetland Hydrology Presen	nt? Yes ✓ No
(includes capillary fringe)		,	
Describe Recorded Data (stream gauge, monitoring well, aer	iai photos, previous inspecti	ons), if available:	
Remarks:		a la cala a con The a con	atland na about more #
The hydrologic regime is seasonally satu	rated, with recharg	e nyarology. The w	etiand receives runott
from an adjacent dirt logging road.			

**VEGETATION** – Use scientific names of plants.

T. O (D	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Fraxinus nigra</u>				That Are OBL, FACW, or FAC:3(A)
2. Acer rubrum				Total Number of Dominant
3				Species Across All Strata:3 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC. 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	<u>75.0</u>	= Total Co	ver	OBL species4 x 1 =4
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 = 144
1. <u>Ulmus americana</u>	10.0_	<u>Y</u>	<u>FACW</u>	FACULT Process 15 x 3 = 45
2				FACU species0 x 4 =0 UPL species0 x 5 =0
3				Column Totals: 91 (A) 193 (B)
4				
5				Prevalence Index = B/A = 2.12
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Carex crinita	2.0	N	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Lycopus uniflorus</u>	2.0	N	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex cf. bromoides</u>	2.0	N	<b>FACW</b>	10 10 10 10 10 10 10 10 10 10 10 10 10 1
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
				Vegetation
4		= Total Co	Ver	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate		_ 10tal C0	v O1	
		lore her	baceous	s vegetation is likely present during the
growing season.				

Sampling Point: wira044f\_w

SOIL Sampling Point: wira044f\_w

	ription: (Describe to	the depth				or confirm	the absence of inc	dicators.)
Depth	Matrix			x Features		1 - 2	Tandam	Description
<u>(inches)</u>	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Black His Hydroget Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	(A1) ipedon (A2)	  LRA 149B)	Polyvalue Belov	ce (S9) ( <b>L</b> dineral (F1 Matrix (F2 (F3) fface (F6) Surface (F ions (F8)	.RR R, MI ) (LRR K ) 7)	.RA 149B) , L)	2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangan Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Expla	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) A Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) A (S7) (LRR K, L) A (S9) (MLRA 149B) A (TA6) (MLRA 144A, 145, 149B)
	hes):		_				Hydric Soil Prese	ent? Yes <u>√</u> No
Remarks: Soils cou		oled due					ed utilities wit	thin the roadside area.



wira044f\_w\_E



wira044f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/DGL/BRG		
File #:	Date of visit(s):		
wira044	10/19/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-001W-06</u>	North Central Forest		
Lat: <u>46.402737</u> Long: <u>-90.538905</u>	Watershed:		
Anderson town	LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
5351C Gogebic silt loam	Wetland Type(s):		
Solve Cogebie siit loam	PFO - Hardwood swamp		
Field Verified:	i i o marawood	a swamp	
Series not verified. Soils could not be sampled due to the	Wetland Size:	Wetland Area Impacted	
proximity of potential buried utilities within the roadside area.	0.05	0.05	
Soils are assumed to be hydric based on the landscape	Vegetation:		
position and dominant vegetation.	Plant Community D	Description(s):	
Hydrology:		nated by Fraxinus nigra and Acer	
The hydrologic regime is seasonally saturated	rubrum. The shrub vegetation is dominated by Ulmus		
with recharge hydrology. The wetland receives	americana. The herbaceous vegetation is dominated by		
runoff from an adjacent dirt logging road.		and Carex crinita, though sparse	
Tanon nom an adjacont ant logging road.	throughout the wetla	and.	

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	14	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	1	Within or adjacent to habitat corridor or established wildlife habitat area
4		N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	Y	
	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP	11	14	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	INA	INA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NΙΛ	NIA	Densely rooted emergent or woody vegetation
ST	NA	NA	Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N N	Natural land cover in 100m buffer area < 50%
	IN	IN	Groundwater Processes
GW			
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
1 4	N	N	Wetland soils are organic
4	IN	1.4	Tresand cone are organic
5	N	N	Wetland is within a wellhead protection area

Sec	ction 1 Com	nments (Refer to Section 1 numbers)
HU-4: current logging WH-10: standing wat ST-5: located off of a	ter is present after pr	n wetland are marked for removal recipitation events
Lis		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
00001100	Y	Avians, herpetofauna, insects
Fis	sh and Agua	atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential Y	Species/Habitat  Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Fraxinus nigra			PFO	Abundant
Acer rubrum			PFO	Common
Ulmus americana			PFO	Common
Carex crinita			PFO	Uncommon
Lycopus uniflorus			PFO	Uncommon
Lycopus uniflorus Carex cf. bromoides			PFO	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised of native plant species expected within the plant community. No invasive species were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		L	U	Point source or stormwater discharge
X	Х		L	U	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		L	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V		0	Removal of tree or shrub strata – logging,
X	X	X	Н	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

ı	The wetland and surrounding area is impacted by active logging and influenced by an unpaved logging road and
I	associated runoff. Within the wetland buffer, the area is also impacted by earthworm activity.
l	
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l	
I	
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ı	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Native species, low diversity
Human Use Values	Actively logged, public access, unlikely to be used for recreation or research purposes
Wildlife Habitat	Disturbed area, vegetation impacted by logging
Fish and Aquatic Life Habitat	Potential standing water after rain events may support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Likely compaction from logging, closed basin
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Iron	Sampling Date: 2019-10-19
Applicant/Owner: Enbridge			
Investigator(s): BRG/DGL			· -
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Gogebic silt loam, 6 to			
	•		
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answ	wers in Remarks.)
SUMMARY OF FINDINGS – Attach site m	ap showing sampling	point locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the	Sampled Area	
	No <u>√</u> within	a Wetland? Yes	No <u> </u>
Wetland Hydrology Present? Yes		optional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a		logging rood	
The upland sample point is located of	on the eage of a din	logging road.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	icators (minimum of two required)
Primary Indicators (minimum of one is required; check	call that apply)	Surface So	
	Water-Stained Leaves (B9)	Drainage F	
	Aquatic Fauna (B13)		Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Seaso	on Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish B	urrows (C8)
	Oxidized Rhizospheres on Li	- : :	Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (C		Stressed Plants (D1)
	Recent Iron Reduction in Tille		nic Position (D2)
	Thin Muck Surface (C7)		quitard (D3)
	Other (Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neuti	ral Test (D5)
	Donth (inches):		
	Depth (inches):		
	Depth (inches):		ent? Yes No✓_
(includes capillary fringe)		_	ent: lesNoy
Describe Recorded Data (stream gauge, monitoring w	vell, aerial photos, previous in	spections), if available:	
Remarks:			
No indicators of wetland hydrology v	vere observed. Con	npacted soils cause wa	ater to flow quickly into
the wetland from the upland area.		•	
·			

<b>VEGETATION</b> – Use scientific names of plants.	ı			Sampling Point: wira044 u
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2,0 (A)
2	<u> </u>			Total Number of Dominant
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species0.0 x 2 =0.0
1. Corylus cornuta	5.0	Y	FACU	FAC species 5.0 x 3 = 15.0
2. <u>Abies balsamea</u>			FAC	FACU species <u>8.0</u> x 4 = <u>32.0</u>
3.				UPL species 0.0 x 5 = 0.0
				Column Totals: <u>13.0</u> (A) <u>47.0</u> (B)
4				Prevalence Index = B/A =3.6
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7		= Total Co		2 - Dominance Test is >50%
III I O	1.0	= 10(a) C0	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Fraxinus americana	3.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Populus tremuloides			FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Carex pedunculata			FAC	
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		-		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3.	- ·			Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate s The upland has little vegetative cover d	sheet.) lue to pi	led logs	s and bra	anches from logging activity.

SOIL Sampling Point: wira044\_u

	cription: (Describe to	the depth				or confirm	the absence of inc	licators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Su	(A1) pipedon (A2)	LRA 149B)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark Sur Redox Depressi	ce (S9) ( <b>L</b> dineral (F1 Matrix (F2 (F3) fface (F6) Surface (F ions (F8)	.RR R, MI ) (LRR K ) 7)	.RA 149B) L)	2 cm Muck (A Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangan Piedmont Flo Mesic Spodie Red Parent I Very Shallow Other (Expla	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Re(S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) Re(TA6) (MLRA 144A, 145, 149B) Material (F21) Remarks)
Туре:	ches):		_				Hydric Soil Prese	ent? Yes No✓_
Remarks: Soils cou	ıld not be samı	oled due						hin the roadside area. ninant vegetation.



wira044\_u\_E



wira044\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>  Iro</u>	n	Sampling Date: 2019-10-19
Applicant/Owner: Enbridge		State: WI	Sampling Point: wira045e_w
Investigator(s): BRG/DGL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests La			
Soil Map Unit Name: Gogebic silt loam, 6 to			
Are climatic / hydrologic conditions on the site typical i			
Are Vegetation ✓, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	-		
SUMMARY OF FINDINGS – Attach site r	nap snowing sampling po	Int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u>		npled Area	
		Vetland? Yes <u>√</u>	
Wetland Hydrology Present? Yes _ ✓	No If yes, opti	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in The wetland is a fresh wet meadow	a separate report.) that was previously ha	rdwood swamp but	has been logged
recently. The herbaceous vegetatio		•	
year.		iamon noca, regeta	
, , , , , , , , , , , , , , , , , , , ,			
LIVEROLOGY			
HYDROLOGY Wetland Hydrology Indicators:		Socondary Indica	toro (minimum of two required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; checking the control of the cont	ck all that apply)	· · · · · · · · · · · · · · · · · · ·	tors (minimum of two required) Cracks (B6)
	Water-Stained Leaves (B9)	Surface Soil Drainage Pat	
	Aquatic Fauna (B13)	Moss Trim Li	
	Marl Deposits (B15)	Dry-Season	
	Hydrogen Sulfide Odor (C1)	Crayfish Buri	
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled S		
	Thin Muck Surface (C7)	Shallow Aqui	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	Carlot (Explain in Normanie)	Microtopogra	
Field Observations:			
Surface Water Present? Yes _ ✓ No	Depth (inches): 0.3		
Water Table Present? Yes No✓	Depth (inches):		
	_ Depth (inches):	Wetland Hydrology Presen	t? Yes/ No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspe	L ctions), if available:	
gauge,	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Remarks: The hydrologic regime is seasonally	v saturated with rechar	ae hydrology. The w	etland receives runoff
from the adjacent logging road.	y Sataratea, with reorial	go riyarology. The W	chara receives ranon
Trom the adjacent logging road.			

VEGETATION – Use scientific names of plants.				Sampling Point: wira045e_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	10.0	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Acer rubrum	5.0	Y	<u>FAC</u>	Total Number of Dominant
3				Species Across All Strata: (B)
4		<u> </u>		Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	15.0	= Total Co	over	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species 11 x 2 = 22
1		<u> </u>		FAC species 7 x 3 = 21 FACU species 0 x 4 = 0
2		<del> </del>		UPL species x 5 =
3		<u> </u>		Column Totals: 18 (A) 43 (B)
4		<del>.</del>		
5		<u> </u>		Prevalence Index = B/A =
6		<u> </u>		Hydrophytic Vegetation Indicators:
7		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Populus tremuloides</u>			<u>FAC</u>	data in Remarks or on a separate sheet)
2. <u>Carex cf. intumescens</u>	1.0	<u>N</u>	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.				Definitions of Vegetation Strata:
6.				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11	<u> </u>			of size, and woody plants less than 3.28 ft tall.
12		<u> </u>		Woody vines – All woody vines greater than 3.28 ft in
	3	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3	_	_		Hydrophytic
4				Vegetation   Present?   Yes/ No
	0.0	= Total Co	over	100
Remarks: (Include photo numbers here or on a separate		دما ام ماس		
The wetland vegetation has been heav	-	-		
vegetation covers much of the wetland.	AS SUC	n, tree	cover is	also nignly reduced.

SOIL Sampling Point: wira045e\_w

Profile Description: (Describe to the			r or confirm	the absence of ind	icators.)	
Depth Matrix		ox Features	. 2	<b>-</b> .	5	
(inches) Color (moist)	% Color (moist)		Loc <sup>2</sup>	Texture	Remarks	
			- —— - ——			
<sup>1</sup> Type: C=Concentration, D=Depletio	n, RM=Reduced Matrix, M	IS=Masked Sand C	Grains.		Pore Lining, M=Matrix.	
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Polyvalue Below Surface (S8) (LRR R, MLRA 149B)  Thin Dark Surface (S9) (LRR R, MLRA 149B)  Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)  Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)				Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (LRR K, L, MLRA 149B)  Coast Prairie Redox (A16) (LRR K, L, R)  5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  Dark Surface (S7) (LRR K, L)  Polyvalue Below Surface (S8) (LRR K, L)  Thin Dark Surface (S9) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  Red Parent Material (F21)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  or problematic.		
Type:				Hydric Soil Prese	nt? Yes <u>√</u> No	
Remarks: Soils could not be sample Soils are assumed to be	ed due to the prox					



wira045e w N



wira045e\_w\_NW

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): KDF/DGL/BRG		
File #: wira045	Date of visit(s): 10/19/2019		
Location: PLSS: 045N-001W-06	Ecological Landscape:  North Central Forest		
Lat: <u>46.402872</u> Long: <u>-90.538411</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
5351C Gogebic silt loam	Wetland Type(s): PEM - fresh wet meadow		
Field Verified:			
Series not verified. Soils could not be sampled due to the proximity of potential buried utilities within the roadside area.	Wetland Size: 0.03	Wetland Area Impacted 0.03	
Soils are assumed to be hydric based on the landscape position and dominant vegetation.	Vegetation: Plant Community Description(s):		
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology. The wetland receives runoff from the adjacent logging road.	The vegetation is highly disturbed within the wetland due to active logging resulting in the removal of the woody vegetation. Few individuals of Carex cf. intumescens and Populus tremuloides seedlings are present.		

 SITE MAP	

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment	
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty	
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:	
2	N	N	Used for educational or scientific purposes	
3	Υ	Υ	Visually or physically accessible to public	
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	
_			In or adjacent to RED FLAG areas	
5	N	N	List:	
6	N	N	Supports or provides habitat for endangered, threatened or special concern species	
7			In or adjacent to archaeological or cultural resource site	
WH			Wildlife Habitat	
1	N	Υ	Wetland and contiguous habitat >10 acres	
2	N	N	3 or more strata present (>10% cover)	
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area	
4	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact	
5	N	N	Occurs in a Joint Venture priority township	
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)	
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other	
7	N	Υ	plans	
0	N.I		Part of a large habitat block that supports area sensitive species	
8	N	Y		
9	N	N	Ephemeral pond with water present > 45 days	
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates	
11	N	N	Seasonally exposed mudflats present	
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)	
FA			Fish and Aquatic Life Habitat	
1	N	N	Wetland is connected or contiguous with perennial stream or lake	
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates	
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system	
4	N	N	Vegetation is inundated in spring	
SP			Shoreline Protection	
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable	
2	NI A	NIA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating	
	NA	NA	water levels or high flows – if no, not applicable	
3	NA	NA	Densely rooted emergent or woody vegetation	
ST			Storm and Floodwater Storage	
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream	
2	Υ	Υ	Water flow through wetland is NOT channelized	
3	N	N	Dense, persistent vegetation	
4	N	N	Evidence of flashy hydrology	
5	Y	Y	Point or non-point source inflow	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed	
7	N	N	Within a watershed with ≤10% wetland	
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event	
WQ	.,	1.4	Water Quality Protection	
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section	
2	Y	Y	Basin wetland or constricted outlet	
3	Y	Y	Water flow through wetland is NOT channelized	
4	N	N	Vegetated wetland associated with a lake or stream	
5	N	N N	Dense, persistent vegetation	
6	N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth	
7			Stormwater or surface water from agricultural land is major hydrology source	
	N	N		
8	N	N	Discharge to surface water	
9	N	N	Natural land cover in 100m buffer area < 50%	
			Groundwater Processes	
GW				
1	N	N	Springs, seeps or indicators of groundwater present	
1 2	N N	N N	Location near a groundwater divide or a headwater wetland	
1				
1 2	N	N	Location near a groundwater divide or a headwater wetland	
1 2 3	N N	N N	Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs	

Section 1 Comments (Refer to Section 1 numbers)							
HU-4: current logging WH-10: standing wat ST-5: located off of a	ter is present after pr	n wetland are marked for removal recipitation events					
Lis		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,					
Observed	Potential	Species/Habitat/Comments					
00001100	Y	Avians, herpetofauna, insects					
Fis	sh and Agua	atic Life Habitat and Species Observations					
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.					
Observed	Potential Y	Species/Habitat  Aquatic invertebrates					

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%√
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Fraxinus nigra				Common
Acer rubrum				Uncommon
Populus tremuloides				Uncommon
Carex cf. intumescens				Rare

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is largely removed within the wetland with few individual plants remaining due to active logging at the site. Downed woody debris covers much of the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		L	С	Point source or stormwater discharge
X	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	х х н	V L	0	Removal of tree or shrub strata – logging,
X	^		П	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland and surrounding area is heavily impacted by active logging and influenced by an unpaved logging road
and associated runoff. Within the wetland buffer, the area is also impacted by earthworm activity.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Highly disturbed, very few individuals present
Human Use Values	Actively logged, public access, unlikely to be used for recreation or research purposes
Wildlife Habitat	Disturbed area, vegetation impacted by logging
Fish and Aquatic Life Habitat	Potential standing water after rain events may support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Likely compaction from logging, closed basin
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Iron	_ Sampling Date: 2019-10-19		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wira045 υ		
Investigator(s): BRG/DGL	Section, Tov	wnship, Range: <u>045N-001W-</u>	.06		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Gogebic silt loam, 6					
Are climatic / hydrologic conditions on the site typic					
Are Vegetation ✓, Soil ✓, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach sit	e map showing sampling	point locations, transect على	s, important features, etc.		
Hydrophytic Vegetation Present? Yes	No✓ Is the	e Sampled Area			
		n a Wetland? Yes	No <u> √</u>		
		s, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here of The upland is located off the side	r in a separate report.)	Lie highly dieturhod			
The upland is located on the side	or a logging road and	is riigiliy disturbed.			
HYDROLOGY					
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	cators (minimum of two required)		
Primary Indicators (minimum of one is required; of		<del></del>			
	Water-Stained Leaves (B9)				
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16) Dry-Season Water Table (C2)		
	Marl Deposits (B15)	-			
Water Marks (B1)	<ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on L</li></ul>				
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iron (		Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Til	· —	• •		
	Thin Muck Surface (C7)		oils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)		
	Other (Explain in Remarks)		Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)			al Test (D5)		
Field Observations:					
Surface Water Present? Yes No	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):	Wetland Hydrology Prese	ent? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitori	ng well aerial photos previous i	nspections) if available:			
Bosonise Recorded Bata (Stream gauge, monitor)	ing wen, dendi photos, previous i	hopeononoj, ii avanabio.			
Remarks: No indicators of wetland hydrolog	www.nere.ohserved				
The indicators of wetland hydrolog	ly were observed.				

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: 30' )
1. Populus tremuloides       10.0 Y FAC       That Are OBL, FACW, or FAC:
3
4
5
6
7
7
Sapling/Shrub Stratum       (Plot size: 15' )       FACW species 0 x 2 = 0         1
1
1 FAC species
FACU species 10 x 4 = 40
<u>-</u>
UPL species
5 Column Totals: (A) (B) 4
5 Prevalence Index = B/A =
6. Hydrophytic Vegetation Indicators:
7 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
I 3 - Prevalence Index is ≤3.0'
Herb Stratum (Plot size: 5' )  1. <u>Carex gracillima</u> 3.0 N FACU 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Oxalis montana  2.0 N FACU — Problematic Hydrophytic Vegetation¹ (Explain)
3. Populus tremuloides 2.0 N FAC
Indicators of hydric soil and wetland hydrology must
- Dubus ideas
Definitions of vegetation strata.
6 Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8 Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11 Or size, and woody plants less than 3.26 ft tail.  Woody vines – All woody vines greater than 3.28 ft in
12 Woody vines — All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size:30')
1
2
3 Hydrophytic Vegetation
4 Present? Yes No _/
= Total Cover
Remarks: (Include photo numbers here or on a separate sheet.) The upland vegetation has been highly disturbed by recent logging, and due to the time of year herbaceous vegetation cover is sparse.

Sampling Point: wira045 u

SOIL Sampling Point: wira045\_u

	cription: (Describe to	the depth				or confirm	the absence of inc	licators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Su	(A1) pipedon (A2)	LRA 149B)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark Sur Redox Depressi	ce (S9) ( <b>L</b> dineral (F1 Matrix (F2 (F3) fface (F6) Surface (F ions (F8)	.RR R, MI ) (LRR K ) 7)	.RA 149B) L)	2 cm Muck (A Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark Su Iron-Mangan Piedmont Flo Mesic Spodie Red Parent I Very Shallow Other (Expla	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Re(S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) Re(TA6) (MLRA 144A, 145, 149B) Material (F21) Remarks)
Туре:	ches):		_				Hydric Soil Prese	ent? Yes No✓_
Remarks: Soils cou	ıld not be samı	oled due						hin the roadside area. ninant vegetation.



wira045\_u\_N



wira045\_u\_NW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloca	tion Proiect	City/C	County: <u>Iron</u>		Sampling Date: 2019-10-01		
Applicant/Owner: Enbridge	•				Sampling Point: wire001f_w		
Investigator(s): NTT/MAL/A							
Landform (hillslope, terrace, etc.):							
					Datum: WGS84		
Soil Map Unit Name: Wormet							
Are climatic / hydrologic condition		•	•				
Are Vegetation, Soil		-					
Are Vegetation, Soil							
SUMMARY OF FINDINGS	- Attach site	map showing sam	npling point lo	cations, transects	, important features, etc.		
Hydrophytic Vegetation Present	2 Ves /	No	Is the Sampled A	Area			
Hydric Soil Present?		No	-	d? Yes <u>√</u>	No		
Wetland Hydrology Present?			If yes, optional W	etland Site ID:			
Remarks: (Explain alternative p	rocedures here or i	n a separate report.)					
A small wet forest dep	pression near	a two-track roa	d.				
HYDROLOGY							
Wetland Hydrology Indicators	:			Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of		eck all that apply)		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
Surface Water (A1)	•	_ Water-Stained Leave		Drainage Pat			
High Water Table (A2)		_ Aquatic Fauna (B13)		Moss Trim Li			
Saturation (A3)		_ Marl Deposits (B15)	sits (B15) Dry-Season Water Table (C2)				
Water Marks (B1)	_	_ Hydrogen Sulfide Od	or (C1)	Crayfish Burr	rows (C8)		
Sediment Deposits (B2)	_	_ Oxidized Rhizosphere	ized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		<del></del>	esence of Reduced Iron (C4) Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)		Recent Iron Reductio					
Iron Deposits (B5)	·	_ Thin Muck Surface (0	,	Shallow Aquitard (D3)			
Inundation Visible on Aerial		_ Other (Explain in Rer	narks)		phic Relief (D4)		
Sparsely Vegetated Concav	ve Surface (B8)			FAC-Neutral	Test (D5)		
Field Observations:	V N- /	Danish (in alcas)					
		Depth (inches):					
		Depth (inches): Depth (inches):		land Hydrology Proces	t? Yes <u>√</u> No		
(includes capillary fringe)					it! Tes_v NO		
Describe Recorded Data (stream	n gauge, monitoring	g well, aerial photos, pre	vious inspections),	if available:			
Remarks:							
Feature likely with a s	aturated hyd	rologic regime.					
-	-						

**VEGETATION –** Use scientific names of plants.

Tree Stratum (Plot size:30')  1. Populus tremuloides  2. Fraxinus nigra	Absolute % Cover	Dominant		
1. Populus tremuloides		Species?		Dominance Test worksheet:
•	25			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Fraxinus nigra				
3				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species5 x 1 =5
Sapling/Shrub Stratum (Plot size:15')				FACW species 65 x 2 = 130
1. <u>llex verticillata</u>	25	Υ	FACW	FAC species <u>35</u> x 3 = <u>105</u>
2. Acer rubrum				FACU species0 x 4 =0
3			<u> </u>	UPL species0 x 5 =0
				Column Totals: <u>105</u> (A) <u>240</u> (B)
4 5				Prevalence Index = B/A = 2.29
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	35	= Total Co	/er	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Onoclea sensibilis</u>			<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Calamagrostis canadensis</u>			OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Ilex verticillata</u>	5	Y	<u>FACW</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes✓ No
		= Total Co	/er	
Remarks: (Include photo numbers here or on a separate s		ack ash	and qu	aking aspen in the canopy. Ground

SOIL Sampling Point: wire001f\_w

Profile Des	cription: (Describe t	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features				
(inches)	Color (moist)		Color (r	noist)	%	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-2	10YR 3/1	<u>100</u>						SIL	
2-16	<u>10YR 3/1</u>	_80_	5YR	4/6	_20_	C	_M_	SCL	Prominent redox
1								2	
Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyva	alue Belov	w Surface	(S8) ( <b>LR</b> I	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	pipedon (A2)		ML	RA 149B)	)			Coast	Prairie Redox (A16) (LRR K, L, R)
	istic (A3)						LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)			-	//ineral (F1 Matrix (F2		., L)		Surface (S7) ( <b>LRR K, L</b> ) alue Below Surface (S8) ( <b>LRR K, L</b> )
Deplete	d Below Dark Surface	e (A11)	Deple	ted Matrix	(F3)	,		Thin D	Dark Surface (S9) ( <b>LRR K, L</b> )
	ark Surface (A12)				rface (F6)	· <del>-</del> ·			Manganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)			ted Dark : Depress	Surface (F ions (F8)	7)			nont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)		110007	СВоргоос	10110 (1 0)				Parent Material (F21)
	d Matrix (S6)							-	Shallow Dark Surface (TF12)
Dark Su	ırface (S7) ( <b>LRR R, M</b>	ILRA 149I	3)					Other	(Explain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic vegetat	ion and we	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	C.
Restrictive	Layer (if observed):								
Type:									
	ches):							Hydric Soi	I Present? Yes <u>√</u> No
Remarks:			4 41		- 44	:1 1			
Redox c	oncentrations	presen	t throug	nout b	ottom	soli lay	er.		



wire001f\_w\_E



wire001f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/ARK		
File #: wire001	Date of visit(s): 10/01/2019		
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	pe:	
Lat: <u>46.406454</u> Long: <u>-90.539202</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class:		
815A Wormet sandy loam, 0 to 3 percent slopes	Wetland Type(s): PFO - Hardwood Swamp		
Field Verified:		•	
The soil series was not verified. The soils consist of a silt loam over a sandy clay loam.	Wetland Size: 0.02	Wetland Area Impacted 0.02	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The small basin feature along an access road is seasonally saturated with recharge hydrology.	The herbaceous I is largely bare wit bluejoint. The shr	ayer of the forested community h cover of sensitive fern and ub layer contains winterberry over is sparse quaking aspen.	

SITE MAP		

## **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Υ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Along a trail
2	Ν	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	Ν	Ν	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
Q			Part of a large habitat block that supports area sensitive species
8	Y	Y	
9	N	N	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area ( <u>&gt;</u> 1 acre) - if no, not applicable
2	NIA	NIA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Ν	Υ	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7			Stormwater or surface water from agricultural land is major hydrology source
	N	N	
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ν	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Ν	N	Wetland remains saturated for an extended time period with no additional water inputs
4	Ν	N	Wetland soils are organic
5	Ν	N	Wetland is within a wellhead protection area
			·

\\/i	Idlife Hahita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ob	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wi	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	The margins of the feature may provide songbird, other arboreal species habitat.
	1	
	. la	Alia Life Habitat and One of a Ob.
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

ST-2: The small, roughly linear, basin receives overflow from nearby standing water which may cause water to flow through the feature.

## **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Common
Fraxinus nigra			PFO	Common
llex verticillata			PFO	Common
Acer rubrum			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon
Calamagrostis canadensis			PFO	Rare

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Low to moderate florisitic integrity with low diversity and no invasive species over. The feature show signs of historical disturbance.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V	1	0	Removal of tree or shrub strata – logging,
X	X	X	L	С	unprescribed fire
	Х		Н	С	Human trails – unpaved
					Human trails – paved
	Х		M	С	Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		М	С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Historical logging evident due to age of trees and lack of stumps. The buffer appears influenced by earthworms. The	)
feature is located near to a active ATV trail.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values		<b>√</b>			
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and presence of bare ground.
Human Use Values	A nearby trail for access
Wildlife Habitat	Small basin with low diversity in plant species and structure.
Fish and Aquatic Life Habitat	The feature likely rarely supports standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	Evidence of rapid water flow through.
Water Quality Protection	Water quality protection limited by size and location within watershed.
Groundwater Processes	The feature does not show groundwater indicators and is fed by precipitation and runoff.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation P	roiect	City/C	County: <u>Iron</u>		Sampling Date: 2019-10-01
	•				Sampling Point: wire001_u
Investigator(s): NTT/ARK/MAL					<del>-</del>
Landform (hillslope, terrace, etc.): Rise					
Subregion (LRR or MLRA): Northcentral					
Soil Map Unit Name: Wormet sand					
Are climatic / hydrologic conditions on the	•	•	•		
Are Vegetation, Soil, or Hy					
Are Vegetation, Soil, or Hy					
SUMMARY OF FINDINGS – Atta	ach site ma	p showing sam	npling point lo	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present?	Yes	No ✓	Is the Sampled	Area	
Hydric Soil Present?	Yes		within a Wetlan	d? Yes	No <u></u>
Wetland Hydrology Present?	Yes	No <u> </u>	If yes, optional V	Vetland Site ID:	
Remarks: (Explain alternative procedure	s here or in a s	separate report.)	and avetom	adiacent to a gree	vol rood
Sample recorded near the e	euge of a f	nesic nardwo	ood system a	adjaceni io a gra	verroau.
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is re	quired; check a	all that apply)		Surface Soil	Cracks (B6)
Surface Water (A1)		ater-Stained Leave		Drainage Pat	
High Water Table (A2)		quatic Fauna (B13)		Moss Trim Li	
Saturation (A3)		larl Deposits (B15)			Water Table (C2)
Water Marks (B1)		ydrogen Sulfide Ode		Crayfish Buri	· ·
Sediment Deposits (B2)		xidized Rhizosphere	_		sible on Aerial Imagery (C9)
Drift Deposits (B3)		resence of Reduced ecent Iron Reductio			tressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)		ecent fron Reductio hin Muck Surface (C	,	C6) Geomorphic Shallow Aqui	
Inundation Visible on Aerial Imagery		riin Muck Surface (C ther (Explain in Ren			aphic Relief (D4)
Sparsely Vegetated Concave Surface		and (Explain in Non	nans)	FAC-Neutral	' '
Field Observations:	(50)				1001 (20)
Surface Water Present? Yes	No ✓ [	Depth (inches):			
		Depth (inches):			
		Depth (inches):		tland Hydrology Presen	nt? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge,	monitoring wo	Il agrial photos pro	vious inspections	) if available:	
Describe Necolded Data (Stream gauge,	monitoring we	ii, aeriai priotos, pre	vious irispections,	), ii avallable.	
Remarks:	-t-r- 1116ro	a baam rad			
No wetland hydrology indica	ators were	observed.			

**VEGETATION –** Use scientific names of plants.

	Absolute		t Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u> )	% Cover			Number of Dominant Species
1. Populus tremuloides				That Are OBL, FACW, or FAC:3 (A)
2. Acer saccharum				Total Number of Dominant
3. <u>Abies balsamea</u>	10	N	<u>FAC</u>	Species Across All Strata:8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 37.50 (A/B)
6		-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1. <u>Betula papyrifera</u>	17.5	Y	FACU	FAC species60 x 3 =180
2. Abies balsamea				FACU species <u>75</u> x 4 = <u>300</u>
3. Corylus cornuta				UPL species 0 x 5 = 0
4				Column Totals: <u>135</u> (A) <u>480</u> (B)
5				Prevalence Index = B/A = 3.56
6				Hydrophytic Vegetation Indicators:
7			· <u></u>	1 - Rapid Test for Hydrophytic Vegetation
1		= Total Co		2 - Dominance Test is >50%
Harb Chrahims (Distains) 5'	<u>JZ.J</u>	- Total Co	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Mitchella repens	17 5	Υ	FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>			FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Rubus sp.				
4. Symphyotrichum lateriflorum			FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Carex pedunculata	_		FAC	,
•				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
· <u>-</u>		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')	02.0	10101 00	VOI	
1			· ——	
2				
3			·	Hydrophytic Vegetation
4			·	Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
Edge of a mesic hardwood community		interrun	ted can	opy of aspen and sugar maple.
Braun-Blanquet scale used.		'		
•				

Sampling Point: wire001\_u

SOIL Sampling Point: wire001 u

Profile Des	cription: (Describe	to the depti	n needed to docum	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth (inches)	Mepth         Matrix         Redox Features           nches)         Color (moist)         %         Color (moist)         %         Type¹         Loc²				Loc <sup>2</sup>	Texture	Remarks	
0-4	10YR 2/1	100	Color (Illoist)	70	_ rype	LOC	rexture	Remarks
4-8	7.5YR 3/3	100		·			SIL	
8-16	7.5YR 4/6	100					SICL	
¹Type: C=C	Concentration, D=Dep		Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix. or Problematic Hydric Soils <sup>3</sup> :
Histoso Histic E Black F Hydrog Stratifie Deplete Thick E Sandy Sandy Strippe		- - -	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Sur Depleted Dark St Redox Depress	nce (S9) ( <b>L</b> Mineral (F1 Matrix (F2 (F3) rface (F6) Surface (F	.RR R, MI  ) (LRR K )	-RA 149B)	2 cm Mu Coast Pi 5 cm Mu Dark Sui Polyvalu Thin Dar Iron-Mar Piedmor Mesic Si Red Par Very Sha	ick (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) racky Peat or Peat (S3) (LRR K, L, R) rface (S7) (LRR K, L) rie Below Surface (S8) (LRR K, L) rick Surface (S9) (LRR K, L) riganese Masses (F12) (LRR K, L, R) rit Floodplain Soils (F19) (MLRA 149B) rit Floodplain Soils (F19) (MLRA 149B) rent Material (F21) allow Dark Surface (TF12) explain in Remarks)
	of hydrophytic vegetat  Layer (if observed):		and hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	edrock							
	nches): <u>16</u>						Hydric Soil P	resent? Yes No/
Remarks: No hydr	ic soil indicator	s prese	nt. Hit layer o	f bedro	ock at	16 inch	es.	



wire001\_u\_E



wire001\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County	: Iron	_ Sampling Date: 2019-09-24
Applicant/Owner: Enbridge			
Investigator(s): AGG/MDL			
Landform (hillslope, terrace, etc.): Depression		· · ·	
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Tula-Gogebic comp			
Are climatic / hydrologic conditions on the site typic	•	•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach sit	e map showing samplin	g point locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes	√ No Is th	e Sampled Area	
	110	in a Wetland? Yes <u>√</u>	No
		s, optional Wetland Site ID:	
Remarks: (Explain alternative procedures here of	r in a separate report.)		
The feature is a hardwood swam	o with a canopy domi	nated by black ash and	red maple.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; of	heck all that apply)	•	
	Water-Stained Leaves (B9)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	
	Marl Deposits (B15)		n Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1		
Sediment Deposits (B2)	Oxidized Rhizospheres on	Living Roots (C3) Saturation \	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	(C4) Stunted or S	Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in T	illed Soils (C6) Geomorphic	Position (D2)
1 — · · · · ·	Thin Muck Surface (C7)	Shallow Aq	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutra	ıl Test (D5)
Field Observations:			
	✓ Depth (inches):		
	✓ Depth (inches):		
Saturation Present? Yes No (includes capillary fringe)	✓ Depth (inches):	Wetland Hydrology Prese	ent? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous	inspections), if available:	
Remarks:			
The wetland hydrology regime is	saturated.		
, 0, 0			

<b>/EGETATION</b> – Use scientific names of plants	·.			Sampling Point: wird022f_w
Tree Stratum (Plot size:30')	Absolute % Cover		nt Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	_60.0	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. Acer rubrum				
3.				Total Number of Dominant Species Across All Strata:  (B)
4.				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 100.00 (A/B)
6.				
7				Prevalence Index worksheet:
	85.0			
Sapling/Shrub Stratum (Plot size: 15' )	_00.0_	- Total Ot	5701	FACW species 102 x 2 = 204
1. Fraxinus nigra	25.0	V	EACW/	FAC species x 3 =213
2. Acer rubrum				FACU species0 x 4 =0
				UPL species0 x 5 =0
3				Column Totals: <u>185</u> (A) <u>429</u> (B)
4				Prevalence Index = B/A =2.32
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%
	35	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				4 - Morphological Adaptations¹ (Provide supporting
1. Osmunda claytoniana	30.0_	<u>Y</u>	_FAC_	data in Remarks or on a separate sheet)
2. <u>Carex intumescens</u>	_ <u>15.0</u>	<u>Y</u>	<u>FACW</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Glyceria striata	10.0_	N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Symphyotrichum lateriflorum	2.0	N	FAC	be present, unless disturbed or problematic.
5. <u>Carex crinita</u>	2.0	N	OBL	Definitions of Vegetation Strata:
6. <u>Equisetum sylvaticum</u>	2.0	N	<u>FACW</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Rubus idaeus</u>	2.0	N	FAC	at breast height (DBH), regardless of height.
8. <u>Dryopteris intermedia</u>	2.0	N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size:30')		- Total O	3401	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
Develop (balada abata ayahara bara ayan ayan a	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate The sample point is in wet forest domin		black:	ash and	red manle
The dample point is in wet forest domin	lated by	black	aon ana	rea maple.

SOIL Sampling Point: wird022f\_w

	cription: (Describe	to the dep				or confirm	the absence of indicat	ors.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-7	10YR 3/1	100	(moist)		Турс		CL	Komano
7-20	10YR 6/1	100					SICL	
1 20	10111 0/ 1	100						
		-						_
	_							-
		letion, RM:	Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore	
Hydric Soil			Debarelya Balay	Curtosa	(C0) /I DI	. D		ematic Hydric Soils <sup>3</sup> :
Histosol	pipedon (A2)		Polyvalue Below MLRA 149B)	Surface	(56) (LKI	KK,		(LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surface					t or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M Loamy Gleyed N			, L)	Dark Surface (S7 Polyvalue Below	Surface (S8) (LRR K, L)
✓ Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surfac	e (S9) ( <b>LRR K, L</b> )
	ark Surface (A12)  Mucky Mineral (S1)		Redox Dark Surface Depleted Dark S		7)		_	Masses (F12) ( <b>LRR K, L, R</b> ) lain Soils (F19) ( <b>MLRA 149B</b> )
	Gleyed Matrix (S4)		Redox Depression		')			A6) (MLRA 144A, 145, 149B)
	Redox (S5)						Red Parent Mate	
	d Matrix (S6) Irface (S7) (LRR R, N	ILRA 149E	3)				Other (Explain in	rk Surface (TF12) Remarks)
			etland hydrology must	be prese	ent, unless	disturbed	or problematic.	
Type:	Layer (if observed):							
	ches):						Hydric Soil Present?	Yes ✓ No
Remarks:			<del></del>					
A deplete	ed matrix was	observ	ed.					



wird022f\_w\_N



wird022f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	AGG/MDL		
File #:	Date of visit(s):		
wird022	09/24/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-001W-06</u>	North Central Forest		
Lat: <u>46.39964</u> Long: <u>-90.537937</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town	LOTO, TYICITORIA		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3K		
5351D, 5353B, 5351B, Gogebic silt loam, 18 to 35 percent slopes, very stony, rocky, Tula-Gogebic complex, 0 to 6 percent slopes, stony, Gogebic silt loam, 2 to 6 percent slopes, very stony, rocky	Wetland Type(s):		
F: 1137 - 17: 1	PFO - Hardwood	d swamp	
Field Verified:			
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
loam over a silty clay loam.	0.34	0.34	
	Vegetation:	logorintian(a)	
Hydrology:	Plant Community D		
The wetland hydrology regime is saturated.		hardwood swamp with a	
Geomorphic position and FAC-Neutral test are	' '	ed by black ash and red	
• •	maple.		
present.			

SITE MAP		

### **SECTION 1: Functional Value Assessment**

1 N Y Used for recreation (hunling, birding, hiking, etc.). List: Birding, hunling			ECTION 1:	Functional Value Assessment				
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty				
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Birding, hunting				
3	2	N	N	Used for educational or scientific purposes				
A	3	Υ	Υ					
Solution	4		N					
S		.,						
Fig.	5	N	N					
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	NI	NI					
Wildlife Habitat   N		IN	IN					
1								
2	-	N.I.	N.I.					
3								
4			·					
6         N         N         Occurs in a Joint Venture priority township           6         Y         Y         Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)           7         N         Y         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         N         Part of a large habitat block that supports area sensitive species           9         N         N         Ephemeral pond with water present > 45 days           10         N         N         Ephemeral pond with water present > 45 days           11         N         N         Seasonally exposed mudflats present           12         N         N         Provides habitat scarce in the area (urban, agricultural, etc.)           FA         Fish and Aguatic Life Habitat           1         N         N         Provides habitat for amphibians and aquatic invertebrates           3         N         N         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Standing water prevides habitat for amphibians and aquatic invertebrates           3         N         N								
Fig.   Fig.   Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.)								
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans								
N	6	Y	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)				
8 N N Part of a large habitat block that supports area sensitive species  9 N N Standing water provides habitat for amphibians and aquatic invertebrates  10 N N Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed muditats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 N N Wetland is connected or contiguous with perennial stream or lake  2 N N Standing water provides habitat for amphibians and aquatic invertebrates  3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  SP Shoreline Protection  1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  7 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows—if no, not applicable  8 NA NA water levels or high flows—if no, not applicable  9 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows—if no, not applicable  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Water flow through wetland is NOT channelized  3 Y Y Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces cover >10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event water water water water water water water water as a special provides substantial storage of storm and floodwater based on previous section  9 N N Position water or surface water from agricultural land is major hydrology source  1 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water from agricultural land is major hydrology source  9 N N N Location near a groundw	7	N						
9 N N N Ephemeral pond with water present ≥ 45 days								
10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N V Segatated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Stormwater or surface water from agricultural land is major hydrology so								
11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed WQ Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 3 Y Y Basin wetland or constricted outlet 4 N N Provides substantial storage of storm and floodwater based on previous section 9 N N Provides substantial storage of storm and floodwater based on previous section 1 N N Provides substantial storage of storm and floodwater based on previous section 9 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural l	$\vdash$							
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5 N N Wetland is within a wellhead protection area								

Section 1 Comments (Refer to Section 1 numbers)					
HU-3: Located on co	unty land	rea has been recently logged, and there are large debris in the area			
		at and Species Observation (including amphibians and reptiles)			
	nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,			
	•				
Observed	Potential	Species/Habitat/Comments			
	Y	Mammals Birds			
	I	Dilus			
Fis	sh and Aqua	atic Life Habitat and Species Observations			
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.			
Observed	Detential	On a sing Habitat			
Observed	Potential	Species/Habitat			
	1				

## **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Acer rubrum			PFO	Common
Osmunda claytoniana			PFO	Common
Carex intumescens			PFO	Common
Glyceria striata			PFO	Common
Symphyotrichum lateriflorum			PFO	Uncommon
Carex crinita			PFO	Uncommon
Equisetum sylvaticum			PFO	Uncommon
Rubus idaeus			PFO	Uncommon
Dryopteris intermedia			PFO	Uncommon

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is a wet forest dominated by Fraxinus nigra and Acer rubrum.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located in a intact forest community. A small trail is present within the buffer.				

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	There is an average amount of diversity in the ground layer of the wetland.
Human Use Values	The area does not appear to be good for hunting or birding.
Wildlife Habitat	Multiple strata present. Good cover for resting mammals.
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Constricted basin that allows storm water to infiltrate.
Water Quality Protection	Not associated with waterbody.
Groundwater Processes	Small recharge wetland.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>lr</u>	on	Sampling Date: 2019-09-24
Applicant/Owner: Enbridge			
Investigator(s): AGG/MDL	Section, Townsh	nip, Range: <u>045N-001W-0</u>	06
Landform (hillslope, terrace, etc.): Footslope			
Subregion (LRR or MLRA): Northcentral Forests I			
Soil Map Unit Name: Gogebic silt loam, 18			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map snowing sampling po	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	110	mpled Area	
	NO <u>v</u>	Wetland? Yes	No <u> </u>
		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here or The sample point is located within	in a separate report.)  mesic hardwood forest	with a canopy domin	ated by sugar maple
and ironwood.	mesic narawood forest	with a danopy domin	ated by Sugai Mapie
and nonwood.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch			
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	<ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on Livin</li></ul>	Crayfish Bur	isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		stressed Plants (D1)
1 <del></del>	Recent Iron Reduction in Tilled		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	' '
Field Observations:			· ,
Surface Water Present? Yes No	/ Depth (inches):	_	
	/ Depth (inches):		
	/ Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorir	ng well aerial photos, previous insp		
Describe Recorded Data (stream gauge, monitori	ig well, derial priotos, previous insp	otions), ii available.	
Remarks:	vore observed		
No wetland hydrology indicators w	vere observed.		

**VEGETATION** – Use scientific names of plants.

			Sampling Point: wird022 u
Absolute % Cover		Indicator Status	Dominance Test worksheet:
60.0	Υ	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
			Total Number of Dominant
			Species Across All Strata:
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 20.00 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
80=	= Total Co	ver	OBL species0 x 1 =0
			FACW species0 x 2 =0
30.0	Y	<u>FACU</u>	FAC species 25 x 3 = 75 FACU species 130 x 4 = 520
			UPL species
			Column Totals: <u>155</u> (A) <u>595</u> (B)
			Prevalence Index = B/A = 3.84
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
30.0 =	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
			4 - Morphological Adaptations <sup>1</sup> (Provide supporting
			data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
45.0 -	- Total Co	ver	height.
<u> 10.0</u> -	- Total Go	VOI	
			Hydrophytic
			Vegetation
			Present? Yes No✓
	30.0 = 30.0 = 15.0 = 5.0 = 5.0 = 5.0 = 45.0 = 10.0	80 = Total Co 30.0 Y  30.0 = Total Co  15.0 Y 10.0 Y 5.0 N 5.0 N 5.0 N 5.0 N 45.0 = Total Co	30.0 = Total Cover  15.0 Y FAC  10.0 Y FACU  5.0 N FAC  5.0 N FACU  5.0 N FACU  5.0 N FACU

SOIL Sampling Point: wird022\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Features %	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture Remarks	
(inches)	10YR 3/3	100	Color (moist)	70	туре	LOC	SI Remains	
5-15	10YR 4/3	100		·			SI	
	10YR 4/1	100		·			SI	
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Ma	
Hydric Soil Histoso			Polyvalue Belov	w Surface	(S8) ( <b>LRF</b>	R.R.	Indicators for Problematic Hydric  2 cm Muck (A10) (LRR K, L, M	
Histic E	pipedon (A2)	•	MLRA 149B)				Coast Prairie Redox (A16) (LRI	R K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N				<ul><li>5 cm Mucky Peat or Peat (S3) (</li><li>Dark Surface (S7) (LRR K, L)</li></ul>	LRR K, L, R)
	d Layers (A5)	- (0.44)	Loamy Gleyed		)		Polyvalue Below Surface (S8) (	
-	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Matrix Redox Dark Su				Thin Dark Surface (S9) (LRR K Iron-Manganese Masses (F12)	
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F	7)		Piedmont Floodplain Soils (F19	) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144 Red Parent Material (F21)	IA, 145, 149B)
Stripped	d Matrix (S6)						Very Shallow Dark Surface (TF	12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149B	)				Other (Explain in Remarks)	
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Type:	Layer (if observed):							
'' -	ches):						Hydric Soil Present? Yes	No <u>√</u>
Remarks:							<u>I</u>	
No hydri	c soil indicator	s were	observed.					



wird022\_u\_E



wird022\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Iron		Sampling Date: 2019-09-24	
Applicant/Owner: Enbridge				
Investigator(s): AGG/MDL				
Landform (hillslope, terrace, etc.): Depression		-		
Subregion (LRR or MLRA): Northcentral Forests Lat: 46				
Soil Map Unit Name: Tula-Gogebic complex, 0				
Are climatic / hydrologic conditions on the site typical for thi	•	•		
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology I				
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	it locations, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes✓_ N	No Is the Samp			
Hydric Soil Present? Yes ✓ N	NO	etland? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes _ ✓ N		nal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a see The feature is a wet forest dominated by	parate report.) ov black ash. The gro	und laver is domina	ted by Canada	
bluejoint and Carex tuckermanii.	y black don. The gro	and layer is demine	tod by Gariada	
stadjenit and carex tackermann.				
HYDROLOGY			( ) ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	
Wetland Hydrology Indicators:	41. (	· · · · · · · · · · · · · · · · · · ·	ors (minimum of two required)	
Primary Indicators (minimum of one is required; check all				
	ter-Stained Leaves (B9) uatic Fauna (B13)	Drainage Patt		
	rl Deposits (B15)	Moss Trim Lines (B16) Dry-Season Water Table (C2)		
	drogen Sulfide Odor (C1)	Crayfish Burro	· ·	
	dized Rhizospheres on Living R		sible on Aerial Imagery (C9)	
	sence of Reduced Iron (C4)		ressed Plants (D1)	
	cent Iron Reduction in Tilled Soi			
	n Muck Surface (C7)	Shallow Aquit		
	er (Explain in Remarks)		phic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral		
Field Observations:			. ,	
Surface Water Present? Yes No ✓ _ De	epth (inches):			
Water Table Present? Yes No _ ✓ _ De	epth (inches):			
	epth (inches):	Wetland Hydrology Present	? Yes <u>√</u> No	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspecti	ons), if available:		
3 1 7				
Remarks: The wetland hydrology regime is satura	ated			
The wettand mydrology regime is sature	atou.			

**VEGETATION** – Use scientific names of plants.

over  FACW  FACW  FACW  OVER  ONL  OBL  OBL  OBL  OBL  OBL  OBL  OBL	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       4       (A)         Total Number of Dominant Species Across All Strata:       4       (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:       100.00       (A/B)         Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       95       x 1 =       95         FACW species       60       x 2 =       120         FACW species       5       x 3 =       15         FACU species       0       x 4 =       0         UPL species       0       x 5 =       0         Column Totals:       160       (A)       230       (B)         Prevalence Index = B/A =       1.44         Hydrophytic Vegetation         ✓ 1 - Rapid Test for Hydrophytic Vegetation         ✓ 2 - Dominance Test is >50%         ✓ 3 - Prevalence Index is ≤3.0¹         — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)         — Problematic Hydrophytic Vegetation¹ (Explain)
FACW  FACW  FACW  Over  OBL OBL OBL FACW	That Are OBL, FACW, or FAC:
over  FACW  over  OBL OBL OBL FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet:  Total % Cover of:  Multiply by:  OBL species  60
over  FACW  over  OBL OBL FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:    100.00   (A/B)
over  FACW  over  OBL OBL OBL FACW	Prevalence Index worksheet:
over  FACW  over  OVER	Total % Cover of:  OBL species 95 x 1 = 95  FACW species 60 x 2 = 120  FAC species 5 x 3 = 15  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 160 (A) 230 (B)  Prevalence Index = B/A = 1.44  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
FACW OVER OVER OVER OVER OVER OVER OVER OVER	OBL species 95 x 1 = 95  FACW species 60 x 2 = 120  FAC species 5 x 3 = 15  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 160 (A) 230 (B)  Prevalence Index = B/A = 1.44  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
over  OBL OBL FACW	FACW species 60 x 2 = 120  FAC species 5 x 3 = 15  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 160 (A) 230 (B)  Prevalence Index = B/A = 1.44  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
over  OBL OBL OBL FACW	FAC species
over  OBL OBL OBL FACW	FACU species
over  OBL OBL OBL FACW	UPL species
over  OBL OBL OBL FACW	Column Totals:
over  OBL OBL OBL FACW	Prevalence Index = B/A =
OBL OBL OBL FACW	Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
OBL OBL OBL FACW	<ul> <li> 1 - Rapid Test for Hydrophytic Vegetation</li> <li> 2 - Dominance Test is &gt;50%</li> <li> 3 - Prevalence Index is ≤3.0¹</li> <li> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> <li> Problematic Hydrophytic Vegetation¹ (Explain)</li> <li>¹Indicators of hydric soil and wetland hydrology must</li> </ul>
OBL OBL FACW	<ul> <li> 1 - Rapid Test for Hydrophytic Vegetation</li> <li> 2 - Dominance Test is &gt;50%</li> <li> 3 - Prevalence Index is ≤3.0¹</li> <li> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> <li> Problematic Hydrophytic Vegetation¹ (Explain)</li> <li>¹Indicators of hydric soil and wetland hydrology must</li> </ul>
OBL OBL OBL FACW	2 - Dominance Test is >50%     3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
OBL OBL OBL FACW	3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
OBL OBL FACW	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
OBL OBL FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must
OBL FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
FACW	
ODI	be present, unless disturbed of problematic.
_ <u>UDL</u>	Definitions of Vegetation Strata:
FAC	
	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	Sapling/shrub – Woody plants less than 3 in. DBH
	and greater than or equal to 3.28 ft (1 m) tall.
	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	Woody vines – All woody vines greater than 3.28 ft in
	height.
ovei	
	Hydrophytic
	Vegetation   Present?
over	
	cover

SOIL Sampling Point: wird023f\_w

Profile Des	cription: (Describe	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix	0/	Calar (a		x Features	1	Loc <sup>2</sup>	Ta	Demonto	
(inches) 0-4	Color (moist) 10YR 4/2	<u>%</u> 95	Color (n		 5	Type'	M	Texture	Prominent redox	
4-10	10YR 5/1	100	10111	0/0				SIL	1 TOTHINGTIC TODA	
	7.5YR 4/4							SIL		
-										
	oncentration, D=Depl	etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil Histoso			Polyace	luo Bolov	v Surface	(CQ) /I DI	D D		for Problematic Hydric Soils <sup>3</sup> : Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)		MLF	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)				ce (S9) ( <b>L</b> ⁄lineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2		, –,	Polyva	alue Below Surface (S8) (LRR K, L)	
-	d Below Dark Surface ark Surface (A12)	(A11)		ed Matrix	(F3) rface (F6)				Park Surface (S9) (LRR K, L)  Ianganese Masses (F12) (LRR K, L, R)	
	Mucky Mineral (S1)				Surface (F6)	7)			nont Floodplain Soils (F19) (MLRA 149B)	
Sandy (	Gleyed Matrix (S4)			Depress		,		Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)	
-	Redox (S5) d Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	urface (S7) (LRR R, N	ILRA 149	3)						(Explain in Remarks)	
	of hydrophytic vegetat	ion and w	etland hydro	logy mus	t be prese	ent, unles:	s disturbed	or problemati	с.	
	Layer (if observed):									
Type: Depth (in	ches):							Hydric Soi	Present? Yes/ No	
Remarks:			<del></del>							
Upper pi	rofile is deplete	ed.								



 $wird023f\_w\_E$ 



wird023f\_w\_N

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): AGG/MDL			
File #: wird023	Date of visit(s): 09/24/2019			
Location: PLSS: <u>045N-001W-06</u>	Ecological Landsca North Central Forest	pe:		
Lat: 46.400227 Long: -90.538255	Watershed: LS13, Tyler Forks			
County: <u>Iron</u> Town/City/Village: <u>Anderson town</u>				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class:			
5353B Tula-Gogebic complex, 5351B Gogebic silt loam, 5351C Gogebic silt loam, 5351D Gogebic silt loam  Field Verified:	Wetland Type(s): PFO - hardwood swamp			
Series not verified. Soils were a loam over a silt				
loam.	Wetland Size: 1.54	Wetland Area Impacted 1.54		
	Vegetation: Plant Community D	escription(s):		
Hydrology: The hydrologic regime is saturated, with recharge hydrology.	The wetland is a hardwood swamp dominated by Fraxinus nigra in the tree and shrub layers, with Carex tuckermanii and Calamagrostis canadensis dominant in the herbaceous layer.			

SITE MAP		

#### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '		In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3		_	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	
	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present <u>&gt; 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	.,		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	- 11	11	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4			Evidence of flashy hydrology
$\vdash$	N	N	Point or non-point source inflow
5	N	N	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
	N	Y	
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

	Section 1 Comments (Refer to Section 1 numbers)							
HU-3: the feature is located on public county land WH-1: the wetland is located in a large block of forested area								
ST-3: the wetland is located in a large block or lorested area ST-3: the wetland has somewhat dense herbaceous vegetation								
Wi	Idlifa Habita	at and Species Observation (including amphibians and reptiles)						
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,						
	nter, etc.	oservation, tracks, scat, other sign, type or habitat. hesting, inigratory,						
***	intor, etc.							
Observed	Potential	Species/Habitat/Comments						
	Y	Mammals						
	Υ	Birds						
	Υ	Reptiles						
		atic Life Habitat and Species Observations						
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.						
Observed	Detential	Chaoise/Habitat						
Observed	Potential	Species/Habitat						
	-							

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Trank Seminarity integrity (energy							
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20%	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Carex tuckermanii			PFO	Common
Calamagrostis canadensis			PFO	Common
Iris versicolor			PFO	Common
Onoclea sensibilis			PFO	Uncommon
Carex crinita			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The feature is dominated by Fraxinus nigra, Carex tuckermanii, and Calamagrostis canadensis. There is very little diversity in the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	Х	M	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, , ,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

A nearby logging road is present, and the area has been historically logged.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low species diversity
Human Use Values	Used for logging but no other uses observed
Wildlife Habitat	Poor quality highly disturbed area
Fish and Aquatic Life Habitat	Marginal habitat due to potential inundation
Shoreline Protection	N/A
Flood and Stormwater Storage	No waterbody connected
Water Quality Protection	Small recharge wetland, dense vegetation
Groundwater Processes	Groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iror</u>		Sampling Date: 2019-09-24
•			
Investigator(s): AGG/MDL	Section, Township	, Range: <u>045N-001W-06</u>	3
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Gogebic silt loam, 2 to			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site m	ap snowing sampling pol	nt locations, transects,	important features, etc.
	_ No✓ Is the Sam		
	_ No <u>√</u> within a W		
		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a The upland sample point is located with the s	a separate report.) within mesic hardwood	forest dominated by r	manles
The apiana sample point is located to	Within Mesic Harawood	iorest dominated by i	napics.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicato	ors (minimum of two required)
Primary Indicators (minimum of one is required; check	k all that apply)	Surface Soil C	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patte	
	Aquatic Fauna (B13)	Moss Trim Line	
	Marl Deposits (B15)	Dry-Season W	ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation Visi	ble on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stre	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Sc	ils (C6) Geomorphic P	osition (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral T	est (D5)
Field Observations:			
Surface Water Present? Yes No _ ✓	Depth (inches):		
Water Table Present? Yes No _✓	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present?	? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring was a continuous properties).	well aerial photos previous inspec	ions) if available:	
Besonibe Necorded Bata (stream gadge, monitoring v	ven, denai priotos, previodo irispec	ionoj, ii avaliabio.	
Remarks:			
No wetland hydrology indicators were	re observed.		
1			l l

**VEGETATION** – Use scientific names of plants.

VEGETATION - Use scientific names of plants.				Sampling Point: wird023 u
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum	40.0	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:
2. Acer rubrum			FAC	
3. Fraxinus nigra				Total Number of Dominant Species Across All Strata:  4.0  (B)
4				Percent of Dominant Species
5		-		That Are OBL, FACW, or FAC: 25.0 (A/B)
6				Prevalence Index worksheet:
7		-		Total % Cover of: Multiply by:
	80.0	= Total Co	ver	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>15.0</u> x 2 = <u>30.0</u>
1. Ostrya virginiana	15.0	Υ	FACU	FAC species 30.0 x 3 = 90.0
2				FACU species <u>92.0</u> x 4 = <u>368.0</u>
				UPL species x 5 =0.0
3				Column Totals: <u>137.0</u> (A) <u>488.0</u> (B)
4				Prevalence Index = B/A =3.6
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	15.0	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Pteridium aquilinum</u>	35.0	Y	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Rubus idaeus</u>			FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Maianthemum canadense</u>			FACU	
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8		-		Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12		-		Woody vines – All woody vines greater than 3.28 ft in
	42.0	= Total Co	over	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No/
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate The mesic hardwood forest canopy is of		nd by re	nd manle	and sugar manla
The mesic nardwood forest carlopy is c	Jonnale	u by re	su mapie	e and Sugai mapie.

SOIL Sampling Point: wird023\_u

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of	f indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature: %	s Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
			Color (moist)		туре	LUC		Remarks
_0-10_	10YR 3/3	100		·			SIL	
		<del></del> .						
					-			
		<del></del> .						
		<u></u>						
		· ——— ·		· -				
		·						
		<del></del> .		· - <u></u>	-			
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Belov	v Surface	(S9) (I DI	) D		or Problematic Hydric Soils <sup>3</sup> : ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)		(50) (EIXI	ν ιν,		rairie Redox (A16) (LRR K, L, R)
Black Hi	istic (A3)	,	Thin Dark Surfa				5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky N			, L)		rface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	e (Δ11)	Loamy Gleyed I Depleted Matrix		(1)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
-	ark Surface (A12)	0 (7111)	Redox Dark Sui					nganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Depleted Dark S	Surface (F			Piedmon	nt Floodplain Soils (F19) (MLRA 149B)
-	Bleyed Matrix (S4)		Redox Depress	ions (F8)				podic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) I Matrix (S6)							ent Material (F21) allow Dark Surface (TF12)
	rface (S7) ( <b>LRR R, N</b>	/ILRA 149B	)					xplain in Remarks)
	, , ,		•					,
	f hydrophytic vegeta		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):	:						
	arent material						Hydric Soil P	resent? Yes No✓_
Remarks:	ches): <u>10</u>						Tryunc 30111	resent: res Nov
	c soil indicator	rs were	observed					
Tto Try arr		10 11010	00001104.					



wird023\_u\_N



wird023\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u> Sampling Date: <u>2019-09-</u>
•	State: WI Sampling Point: wird0241
_	Section, Township, Range: 045N-001W-06
	Local relief (concave, convex, none): Concave Slope (%): 0-2
	552 Long: <u>-90.534497</u> Datum: <u>WGS8</u>
	ercent slopes, frequently flooded NWI classification: PFO1C
Are climatic / hydrologic conditions on the site typical for this time or	
	ntly disturbed?
Are Vegetation, Soil, or Hydrology naturally	
SUMMARY OF FINDINGS – Attach site map show	ng sampling point locations, transects, important features, et
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes No	
Wetland Hydrology Present? Yes _ ✓ No	
Remarks: (Explain alternative procedures here or in a separate re The feature is a hardwood swamp dominate	
The realtire is a hardwood swarrip dominate	d by black asit and Calex biomoldes.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
Surface Water (A1) Water-Stain	
High Water Table (A2) Aquatic Fau	
Saturation (A3) Marl Deposi	
Water Marks (B1) Hydrogen S	ulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rh	sizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of	Reduced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No✓ Depth (inch	
Water Table Present? Yes No _ ✓ Depth (inch	
Saturation Present? Yes No✓ Depth (incl (includes capillary fringe)	nes): Wetland Hydrology Present? Yes / No
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if available:
Remarks: The wetland hydrology regime is saturated.	The feature is a recharge wetland located in a
, ,,	The realtife is a recharge welland located in a
depression.	

/EGETATION – Use scientific names of plants.				Sampling Point: wird024f_w
Tree Stratum (Plot size: 30' )	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	50.0	Υ	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:5(A)
2. <u>Ulmus americana</u>			FACW	
3. Abies balsamea				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	65.0			OBL species x 1 = 20
Sapling/Shrub Stratum (Plot size: 15')				FACW species 134 x 2 = 268
1. Abies balsamea	10.0	Υ	FAC	FAC species <u>25</u> x 3 = <u>75</u>
2. <u>Ulmus americana</u>				FACU species0 x 4 =0
3. Fraxinus nigra				UPL species0 x 5 =0
_				Column Totals: <u>179</u> (A) <u>363</u> (B)
4				Prevalence Index = B/A = 2.03
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	30_ =	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Carex bromoides</u>			FACW	data in Remarks or on a separate sheet)
2. <u>Calamagrostis canadensis</u>	15.0	<u>N</u>	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Symphyotrichum lateriflorum</u>	10.0	N	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Carex crinita</u>	5.0	N	OBL	be present, unless disturbed or problematic.
5. <u>Solidago gigantea</u>	5.0	N	<u>FACW</u>	Definitions of Vegetation Strata:
6. <u>Onoclea sensibilis</u>	4.0	N	<u>FACW</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	84.0		over	height.
	01.0	- Total Oc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Woody Vine Stratum (Plot size: 30')				
Woody Vine Stratum (Plot size:)				
1				
1 2				
1				Hydrophytic Vegetation
1 2				Hydrophytic Vegetation Present? Yes ✓ No

SOIL Sampling Point: wird024f\_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Redox Features						
(inches)	Color (moist)	%	Color (m		<u>%</u>	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-20	10YR 5/1	85	<u>7.5YR</u>	5/6	_15_	<u>C</u>	_M_	CL	Prominent redox
			-						
			-		· <del></del>				
			-		· <del></del>				
<sup>1</sup> Type: C=C	oncentration, D=Depl	letion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.		: PL=Pore Lining, M=Matrix.
Hydric Soil									for Problematic Hydric Soils <sup>3</sup> :
Histosol			-		v Surface	(S8) ( <b>LRI</b>	RR,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			A 149B)		RRR M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)				/lineral (F1				Surface (S7) (LRR K, L)
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2			Polyva	alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)		ed Matrix					Park Surface (S9) (LRR K, L)
	ark Surface (A12)				rface (F6)	·7\			anganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)				Surface (F ions (F8)	7)			ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)		11000%	Боргосс	10110 (1 0)				arent Material (F21)
Stripped	Matrix (S6)							Very S	Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILRA 149	<b>B</b> )					Other	(Explain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetat	ion and w	etland hydrol	ogy mus	t be prese	ent, unless	s disturbed	or problematic	c.
	Layer (if observed):							<u> </u>	
Type:									
Depth (in	ches):							Hydric Soil	Present? Yes No
Remarks:								•	
Soils are	depleted thro	ughou	t the prof	īle.					



wird024f\_w\_E



wird024f\_w\_N

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
	Fralmotor(a)		
Project name:	Evaluator(s):		
Line 5 Relocation Project	AGG/MDL		
File #:	Date of visit(s):		
wird024	09/24/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-001W-06</u>	North Central Forest		
Lat: <u>46.401517</u> Long: <u>-90.534505</u>	Watershed:		
	LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3K		
5374A Bowstring-Arnheim complex, 5351D Gogebic silt loam, 5351C	Wetland Type(s):		
Gogebic silt loam	PFO - hardwood swamp		
Field Verified:	i i o maramood	- Gwamp	
Series not verified. Soils were a clay loam	Wetland Size:	Wetland Area Impacted	
throughout the profile.	1.79	1.79	
l loaghout the prome.	Vegetation:	•	
	Plant Community D	Association(s):	
Hydrology:	l -		
The hydrologic regime is saturated, with recharge		hardwood swamp dominated	
	by a tree layer of Fraxinus nigra, with		
hydrology. The feature is located in a depression.	occasional shrub cover and an herbaceous		
	laver dominated	by Carex bromoides.	
	layer dominated	by Carex bromolacs.	

SITE MAR	•		

#### **SECTION 1: Functional Value Assessment**

	SECTION 1: Functional Value Assessment						
HU	Y/N	Potential	· · · · · · · · · · · · · · · · · · ·				
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Birding				
2	N	N	Used for educational or scientific purposes				
3	Υ	Υ	Visually or physically accessible to public				
4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation				
_			In or adjacent to RED FLAG areas				
5	N	N	List:				
6	N	N	Supports or provides habitat for endangered, threatened or special concern species				
7			In or adjacent to archaeological or cultural resource site				
WH			Wildlife Habitat				
1	Υ	Υ	Wetland and contiguous habitat >10 acres				
2	Y	Y	3 or more strata present (>10% cover)				
3	Ň	N	Within or adjacent to habitat corridor or established wildlife habitat area				
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact				
5	N	N	Occurs in a Joint Venture priority township				
6	N	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)				
	IN		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other				
7	Ν	Υ	plans				
8	N	N	Part of a large habitat block that supports area sensitive species				
9	N	N	Ephemeral pond with water present > 45 days				
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates				
11	N	N	Seasonally exposed mudflats present				
12			Provides habitat scarce in the area (urban, agricultural, etc.)				
FA	N	N	Fish and Aquatic Life Habitat				
	N.I.	N.I	Wetland is connected or contiguous with perennial stream or lake				
1	N N	N	Standing water provides habitat for amphibians and aquatic invertebrates				
2	N_	N					
3	N_	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system				
4	N	N	Vegetation is inundated in spring				
SP			Shoreline Protection				
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable				
2	Ν	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating				
			water levels or high flows – if no, not applicable				
3	N	N	Densely rooted emergent or woody vegetation				
ST			Storm and Floodwater Storage				
1	<u>Y</u>	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream				
2	Y	Y	Water flow through wetland is NOT channelized				
3	Y	Y	Dense, persistent vegetation				
4	N	N	Evidence of flashy hydrology				
5	N	N	Point or non-point source inflow				
6	N	N	Impervious surfaces cover >10% of land surface within the watershed				
7	N	N	Within a watershed with ≤10% wetland				
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event				
WQ			Water Quality Protection				
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section				
2	Υ	Υ	Basin wetland or constricted outlet				
3	Υ	Υ	Water flow through wetland is NOT channelized				
4	N	N	Vegetated wetland associated with a lake or stream				
5	Y	Y	Dense, persistent vegetation				
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth				
7	N	N	Stormwater or surface water from agricultural land is major hydrology source				
8	N	N	Discharge to surface water				
9	N	N	Natural land cover in 100m buffer area < 50%				
GW			Groundwater Processes				
1	N	N	Springs, seeps or indicators of groundwater present				
2	N	N	Location near a groundwater divide or a headwater wetland				
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs				
4	N	N	Wetland soils are organic				
5	N	N	Wetland is within a wellhead protection area				
	IN	I IN	Trought to Walling a Wallington Protostion aroa				

Section 1 Comments (Refer to Section 1 numbers) HU-4: relatively intact plant community with little disturbance WH-4: the feature is located on county land and the surrounding area is undeveloped ST-1: the feature is depressional in nature Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Birds Υ Mammals Amphibians Reptiles Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Train Community intogrity (on cro)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Ulmus americana			PFO	Common
Abies balsamea			PFO	Common
Carex bromoides			PFO	Common
Calamagrostis canadensis			PFO	Common
Symphyotrichum lateriflorum			PFO	Common
Carex crinita			PFO	Uncommon
Solidago gigantea			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is dominated by Fraxinus nigra and Carex bromoides. The ground layer is more diverse than the tree and shrub strata.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
		V		1.1	Removal of tree or shrub strata – logging,
		X	L	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

	The surrounding area has been historically disturbed by logging, but otherwise the wetland is relatively undisturbed.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Good diversity of herbaceous species
Human Use Values	Low potential due to downed trees and debris
Wildlife Habitat	Potential habitat for a variety of species
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Large wetland with dense vegetation
Water Quality Protection	Recharge wetland not associated with waterbody, and does not obtain runoff from any significant sources
Groundwater Processes	Recharge wetland

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: _	ron	Sampling Date: 2019-09-24		
Applicant/Owner: Enbridge					
Investigator(s): AGG/MDL	Section, Towns	ship, Range: <u>045N-001W-0</u>	6		
Landform (hillslope, terrace, etc.): Footslope					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Gogebic silt loam, 18					
•					
Are climatic / hydrologic conditions on the site typica	•				
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, explain any answers	s in Remarks.)		
SUMMARY OF FINDINGS – Attach site	e map showing sampling p	point locations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the S	Sampled Area			
	No ✓ within a	a Wetland? Yes	No <u></u>		
Wetland Hydrology Present? Yes		ptional Wetland Site ID:			
Remarks: (Explain alternative procedures here or	in a separate report.)	t dominated by sugar n	and and rad manla		
The sample point is located within	mesic nardwood fores	at dominated by sugar n	napie and red mapie.		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)		
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil C	Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patt	erns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lir	Moss Trim Lines (B16)		
	Marl Deposits (B15)	Dry-Season V	Vater Table (C2)		
	Hydrogen Sulfide Odor (C1)	Crayfish Burro			
	Oxidized Rhizospheres on Living		ible on Aerial Imagery (C9)		
1 <del></del>	Presence of Reduced Iron (C4	· —	ressed Plants (D1)		
1 — · · · ·	Recent Iron Reduction in Tilled	• • •	• • • • • • • • • • • • • • • • • • • •		
	Thin Muck Surface (C7)		Shallow Aquitard (D3)		
	Other (Explain in Remarks)		phic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral 1	l est (D5)		
Field Observations:	/ Donth (inches):				
	Depth (inches):				
	✓ Depth (inches): ✓ Depth (inches):		2 Vos No /		
(includes capillary fringe)			. r res No		
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous ins	pections), if available:			
Remarks:					
No wetland hydrology indicators w	vere observed.				

**VEGETATION** – Use scientific names of plants.

<b>VEGETATION</b> – Use scientific names of plants.				Sampling Point: wird024 u
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum	65.0	Y	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:1(A)
2. Acer rubrum	15.0	N	FAC	Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 25.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	80.0	= Total Co	ver	OBL species
Sapling/Shrub Stratum (Plot size:15')				FACW species2 x 2 =4
1. Ostrya virginiana	20.0	Y	FACU	FAC species25 x 3 =75
2. <u>Abies balsamea</u>			FAC	FACU species <u>139</u> x 4 = <u>556</u>
3. Quercus rubra			FACU	UPL species $0 \times 5 = 0$
4. Acer saccharum			FACU	Column Totals:166 (A)635 (B)
5. <u>Ulmus americana</u>				Prevalence Index = B/A = 3.83
6			· · ·	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )		. 010. 00		3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Mitchella repens	40.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Pyrola elliptica			FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5	<u> </u>			Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	44.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No✓_
Remarks: (Include photo numbers here or on a separate see The sample point is located in mesic has		I forest.		

SOIL Sampling Point: wird024\_u

Profile Desc	cription: (Describe to	the depth				or confirm	the absence of	of indicators.)
Depth	Matrix			<ul><li>Features</li></ul>				
(inches)	Color (moist)		Color (moist)		Type'	Loc <sup>2</sup>	Texture	Remarks
¹Type: C=C	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked	Sand Gra	ins.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators f	or Problematic Hydric Soils <sup>3</sup> :
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Stripped	characteristics (AT) spipedon (A2) stic (A3) stic (A3) stic (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) flucky Mineral (S1) sleyed Matrix (S4) stedox (S5) Matrix (S6) rface (S7) (LRR R, Mile		Polyvalue Below MLRA 149B) Thin Dark Surfar Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) (L lineral (F1 Matrix (F2) (F3) face (F6) Surface (F	RR R, ML ) (LRR K	RA 149B)	Coast P 5 cm Mt Dark Su Polyvalt Thin Da Iron-Ma Piedmo Mesic S Red Pat	uck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L) ure Below Surface (S8) (LRR K, L) urk Surface (S9) (LRR K, L) urganese Masses (F12) (LRR K, L, R) nt Floodplain Soils (F19) (MLRA 149B) spodic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) hallow Dark Surface (TF12) Explain in Remarks)
	f hydrophytic vegetation for the comment of the com	on and wetla	nd hydrology mus	t be prese	nt, unless	disturbed	or problematic.	
Type: <u>bc</u>	oulders		_					
Depth (in	ches): <u>0</u>		_				Hydric Soil F	Present? Yes No/
	ıld not be dug o sumed non-hyd							naterial near the surface. vegetation.



wird024\_u\_N



wird024\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	City/C	County: <u>Iron</u>		Sampling Date: 2019-09-24			
Applicant/Owner: Enbridge	•						
_			Section, Township, Range: 045N-001W-06				
Landform (hillslope, terrace, etc.):							
Subregion (LRR or MLRA): Northco							
Soil Map Unit Name: Gogebic s							
Are climatic / hydrologic conditions							
Are Vegetation, Soil							
Are Vegetation, Soil							
SUMMARY OF FINDINGS -	Attach site	map showing san	npling point l	ocations, transects,	important features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes✓	No	Is the Sampled within a Wetlan	d Area nd? Yes <u>√</u>	_ No		
Wetland Hydrology Present?  Remarks: (Explain alternative pro			If yes, optional	Wetland Site ID:			
The feature is a hardwo		-	lack ash. Th	ne feature is proba	ably inundated during		
HYDROLOGY							
Wetland Hydrology Indicators:				-	tors (minimum of two required)		
Primary Indicators (minimum of on							
Surface Water (A1)		Water-Stained Leave			<pre> Drainage Patterns (B10) Moss Trim Lines (B16)</pre>		
High Water Table (A2)		<ul><li>Aquatic Fauna (B13)</li><li>Marl Deposits (B15)</li></ul>			Vater Table (C2)		
Saturation (A3) Water Marks (B1)		Mair Deposits (B13) Hydrogen Sulfide Od		Dry-Season V Crayfish Burro			
Sediment Deposits (B2)		<ul><li>_ Oxidized Rhizosphere</li></ul>			sible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced	_		ressed Plants (D1)		
Algal Mat or Crust (B4)		Recent Iron Reduction					
Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aquit			
Inundation Visible on Aerial In		Other (Explain in Rer	,	Microtopograp			
Sparsely Vegetated Concave		_	,	✓ FAC-Neutral			
Field Observations:							
Surface Water Present? Ye	s No <u></u>	Depth (inches):					
Water Table Present? Ye	s No <u></u>	Depth (inches):					
	:s No <u></u>	Depth (inches):	We	etland Hydrology Present	t? Yes <u>√</u> No		
(includes capillary fringe)  Describe Recorded Data (stream of	auge, monitorin	g well, aerial photos, pre	vious inspections	s), if available:			
	jaage,e	g, aca. p.10.00, p.0	mode mopeous.	,, avaab.o.			
The feature is a vernal	pool locate	d in a deep depr	ession.				

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants.	,			Sampling Point: wird025f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	75.0	Υ	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. <u>Acer saccharum</u>	15.0	N	FACU	Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				
6 7				Prevalence Index worksheet:
		= Total Co		
Sapling/Shrub Stratum (Plot size: 15' )		. 010. 00		FACW species <u>85</u> x 2 = <u>170</u>
1. Fraxinus nigra	_10.0	Y	FACW	FAC species 0 x 3 = 0
2				FACU species15 x 4 =60
3				UPL species $0 \times 5 = 0$ Column Totals: $100 \times 6 = 230$ (B)
4				
5				Prevalence Index = B/A =2.30
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
	= Total Cover			<ul> <li>_ ∠ 2 - Dominance Test is &gt;50%</li> <li>_ ∠ 3 - Prevalence Index is ≤3.0¹</li> </ul>
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1				data in Remarks or on a separate sheet)
2				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			·	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12			·	<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
Manchalling Christian (Distring)	0.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
3				Usalandadia
4				Hydrophytic Vegetation
		= Total Co	ver	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate The ground layer of the area is unvege				

SOIL Sampling Point: wird025f\_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	<u>Matrix</u>		Redox Features					<b>-</b> .		
(inches) 0-4	Color (moist) 10YR 3/1	100	Color (m	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
			7 EVD	E/6	10		N /	CII	Drominant raday	
4-18	10YR 5/1	90	7.51K	5/6	10		<u>IVI</u>	SIL	Prominent redox	
Type: C=C  Hydric Soil  Histosol  Histic E  Black H  Hydroge  Stratifie  Deplete  Thick D  Sandy N  Sandy F  Strippec  Dark Su	oncentration, D=Depl Indicators: (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) irface (S7) (LRR R, M	etion, RM	=Reduced M Polyva Loamy Loamy Loamy Deplete Redox Deplete Redox	Matrix, MS  Jue Belov  A 149B)  ark Surfa  Mucky M  Gleyed M  ed Matrix  Dark Sur  ed Dark S  Depressi	S=Masked v Surface ce (S9) (L dineral (F1 Matrix (F2 (F3) face (F6) Surface (F ions (F8)	Sand Grades (S8) (LRF) (LRR K)	ains.  R R,  LRA 149B)	2Location Indicators 2 cm   Coast 5 cm   Dark \$ Polyva Thin E Iron-M Piedm Mesic Red F Very \$ Other	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³: Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Palue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L) Panganese Masses (F12) (LRR K, L, R) Pont Floodplain Soils (F19) (MLRA 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)	
	Layer (if observed):									
Type: Depth (in	ches):							Hydric Soi	I Present? Yes No	
Remarks:	d silty loam bel							nyaric Soi	Tresent? Tes v No	



wird025f\_w\_N



wird025f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): AGG/MDL	
File #: wird025	Date of visit(s): 09/24/2019	
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:
Lat: <u>46.405086</u> Long: <u>-90.532494</u>	Watershed: LS13, Tyler Forks	
County: Iron Town/City/Village: Anderson town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: N/A	
5351C Gogebic silt loam Field Verified:	Wetland Type(s): PFO - hardwood	d swamp
Series not verified. Soils were a loam over silt loam.	Wetland Size: 0.13	Wetland Area Impacted 0.13
Hydrology:	Vegetation: Plant Community D	
The feature is a vernal pool located in a deep depression.		hardwood swamp dominated a, with a bare herbaceous

SITE MAP		

### SECTION 1: Functional Value Assessment

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty   1			ECTION 1:	Functional Value Assessment
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Birding
3	2	N	N	Used for educational or scientific purposes
A   N   Aesthetically pleasing due to diversity of habitat types, tack of pollution or degradation	3	Υ	Υ	
S	4		N	
S		- ' '		
6 N N Supports or provides habitat for endangered, threatened or special concern species 7	5	N	N	
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	NI	NI	
Wildlife Habitat		IN	111	
1 Y Y Wetland and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds isted in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present > 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditate present 12 N Provides habitat for in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N N Densely rooted emergen or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashry hydrology 5 N N Point or non-point source inflow Water Quality Protection 1 N N Point or non-point source inflow Water Quality Protection 1 N N Point or non-point source inflow Water Quality Protection 1 N N Point or non-point source inflow Water Quality Protection 5 N N Point or non-point source inflow Water Quality Protection 6 N N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth N N Signs of excess or indicators of groundwater				
2		V	V	
3			-	
4				
5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 P Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Densely rooted emergent or woody vegetation 3 N N Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Pointer on point source inflow 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Point or non-point source of storm and floodwater based on previous section 5 N N Point or non-point source water from agricultural land is major hydrology source 8 N N Stormwater or surface water from agricultural land is major hydrology source 9 N N N Stormwater or surface water from agricultural				
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.)   Record   New York	$\vdash$		-	
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				
N	б	N	N	Interspersion of nabitat structure (nemi-marsn,snrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species  9 Y Y Ephemeral pond with water present ≥ 45 days  10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed mudifats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 N N Wetland is connected or contiguous with perennial stream or lake  2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 Y Y Vegetation is inundated in spring  SP Shoreline Protection  1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  3 N D Densely rooted emergent or woody vegetation  ST Storm and Floodwater Storage  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  4 N D Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces cover >10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water flow through wetland is NOT channelized  4 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water Quitily Protection  1 N N Provides substantial storage of storm and floodwater based on previous section  2 Y Y Water flow through wetland is NOT channelized  4 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water Quitily Protection  5 N N Dense, persistent vegetation  6 N N Provides substantial storage of storm and floodwater based on previous section  8 N N Dense of the provides and provides a substantial and is maj	7	N	<b>Y</b>	
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9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic				
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		- ' '		
2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\vdash$	N I	N.I	
3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic		1		
			· ·	
5   N   N   Wetland is within a wellhead protection area	-			
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located on county land FA-2: the feature is located in a deep depression, with a vernal pond present ST-3: the herbaceous stratum is bare Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments Mammals Υ Birds Amphibians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species	> 50%	20-50%	10-20%	<10%✓
cover				
Strata	Missing stratum(a)	All strata	All strata present	All strata present,
	or bare due to invasive species	present but reduced native	and good assemblage of	conservative species represented
	ilivasive species	species	native species	represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Fraxinus nigra			PFO	Abundant
Acer saccharum			PFO	Common

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The feature is dominated by Fraxinus nigra. The ground layer of the wetland is unvegetated.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					<u> </u>

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The fe	eature is currently undisturbed	by any significant str	essors.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat			<b>√</b>		
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity of species. Not all strata present
Human Use Values	Private land with no recreational value
Wildlife Habitat	Missing strata. No wildlife observed
Fish and Aquatic Life Habitat	Provides habitat for amphibians in the spring
Shoreline Protection	
Flood and Stormwater Storage	Shallow basin
Water Quality Protection	Closed depression that allows a limited amount of water to infiltrate
Groundwater Processes	Recharge feature

### **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	Project	City/C	County: <u>Iron</u>	:	Sampling Date: 2019-09-24
Applicant/Owner: Enbridge				State: WI	Sampling Point: wird025 u
Investigator(s): AGG/MDL		Section	on, Township, Rang	ge: <u>045N-001W-0</u>	6
Landform (hillslope, terrace, etc.): Signature					
Subregion (LRR or MLRA): Northcent					
Soil Map Unit Name: Gogebic silt					
Are climatic / hydrologic conditions on					
Are Vegetation, Soil, or		-			
Are Vegetation, Soil, oil, oil, oil,		-			
SUMMARY OF FINDINGS – A	Attach site m	ap showing sam	npling point lo	cations, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes ✓	_ No	Is the Sampled A	Area	
Hydric Soil Present?		No <u>✓</u>	within a Wetland	1? Yes	_ No <u>√</u>
Wetland Hydrology Present?		_ No <u> </u>	If yes, optional W	etland Site ID:	
Remarks: (Explain alternative proced			act dominate	nd by cugar mank	0
The sample point is locat	eu in mesic	riai uwoou ioi	esi dominate	o by Sugai mapi	₽.
HYDROLOGY					
Wetland Hydrology Indicators:					ors (minimum of two required)
Primary Indicators (minimum of one is	•			<del></del>	
Surface Water (A1)		Water-Stained Leave		Drainage Patte	
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15)	or (C1)	· · · · · · · · · · · · · · · · · · ·	/ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Ode Oxidized Rhizosphere		Crayfish Burro	ible on Aerial Imagery (C9)
Sediment Deposits (B2) Drift Deposits (B3)		Presence of Reduced	-		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reductio	` '		
Iron Deposits (B5)		Thin Muck Surface (C		Shallow Aquita	
Inundation Visible on Aerial Imag		Other (Explain in Ren		Microtopograp	
Sparsely Vegetated Concave Su				FAC-Neutral T	` '
Field Observations:	(= 0)				
Surface Water Present? Yes _	No <u></u> ✓	Depth (inches):			
		Depth (inches):			
	No <u></u> ✓	Depth (inches):	Wetl	land Hydrology Present	? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gau	ige monitoring w	ell aerial photos pre	vious inspections)	if available:	
Describe Recorded Data (Stream gat	ige, monitoring w	reii, aeriai priotos, pre	vious irispections),	ii avaliable.	
Remarks:	l: t - u				
No wetland hydrology inc	licators wer	e observed.			

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wird025 u
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer saccharum	60.0	Y	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
<ul><li>2. Fraxinus nigra</li><li>3</li></ul>				Total Number of Dominant Species Across All Strata:  6.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 66.6666666666666 (A/B)
6				Prevalence Index worksheet:
7				
Sapling/Shrub Stratum (Plot size:15')	90.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0 FACW species 30.0 x 2 = 60.0
	10.0	V	EACH	FAC species $15.0 \times 3 = 45.0$
1. Ostrya virginiana				FACU species 70.0 x 4 = 280.0
2. <u>Dirca palustris</u>				UPL species x 5 =0.0
3				Column Totals: <u>115.0</u> (A) <u>385.0</u> (B)
4				Prevalence Index = B/A =3.3
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
_	15.0	= Total Co	ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Carex pedunculata	F 0	V	EAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
				data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Dryopteris intermedia</u>				residinate riyarophytto vegetation (Explain)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-		Woody vines – All woody vines greater than 3.28 ft in
12		= Total Co		height.
Woody Vine Stratum (Plot size:30')	10.0	= Total Co	vei	
1				
2				
				Hadran bada
3				Hydrophytic Vegetation
4		= Total Co	ver	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate s		= 10tai 00	VCI	
The sample plot is located in mesic har	dwood 1	forest. 7	The grou	und cover is sparse.
, , , , , , , , , , , , , , , , , , ,			3 -	

SOIL Sampling Point: wird025\_u

Profile Desc	cription: (Describe	to the depti	n needed to docur	nent the i	ndicator	or confirm	the absence of in	ndicators.)
Depth	Matrix Color (moist)	0/		x Features	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches)			Color (moist)	%	туре	LOC		Remarks
0-2	10YR 3/1	100					SIL_	
				·		-		
	-							
				. ———				
¹Type: C=Ce	oncentration, D=Depl	letion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL	.=Pore Lining, M=Matrix.
Hydric Soil		,	,					Problematic Hydric Soils <sup>3</sup> :
Histosol		_	Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		(A10) ( <b>LRR K, L, MLRA 149B</b> )
-	oipedon (A2)		MLRA 149B)			D 4 440D)		rie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3) en Sulfide (A4)	_	Thin Dark Surfa Loamy Mucky N					y Peat or Peat (S3) ( <b>LRR K, L, R</b> ) ce (S7) ( <b>LRR K, L</b> )
	d Layers (A5)	<del>-</del>	Loamy Gleyed I			, <b>-</b> )		Below Surface (S8) (LRR K, L)
Depleted	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark S	Surface (S9) (LRR K, L)
	ark Surface (A12)	-	Redox Dark Su				_	anese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark \$ Redox Depress		7)			Floodplain Soils (F19) (MLRA 149B)
	Redox (S5)	-	Redox Depless	ions (Fo)				dic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) t Material (F21)
	Matrix (S6)							ow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILRA 149B)					Other (Exp	lain in Remarks)
<sup>3</sup> Indicators of	f hydrophytic vegetat	ion and wet	land hydrology mus	t ha nrasa	ant unless	disturbed	or problematic	
	Layer (if observed):		land hydrology mus	n be prese	erit, uriless	s disturbed	or problematic.	
	arent material							
Depth (in	ches): <u>2</u>						Hydric Soil Pres	sent? Yes No <u>√</u>
Remarks:	<u>-</u>							
	ıld not be sam	pled pa	st 2 inches. N	lo hyd	ric soil	indicate	ors observed	l.
				,				





wird025\_u\_N

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Proj	ect	City/Co	ounty: <u>Iron</u>			Sampling Date:	2019-09-28
Applicant/Owner: Enbridge					State: WI	Sampling Poi	int: wirb053f_w
Investigator(s): SAM/MAL							
Landform (hillslope, terrace, etc.): Depress				-			
Subregion (LRR or MLRA): Northcentral For							
Soil Map Unit Name: Gogebic silt loam							
Are climatic / hydrologic conditions on the site			_	-	-		
							/ No
Are Vegetation, Soil, or Hydrol							<u>▼</u> NO
Are Vegetation, Soil, or Hydrol	ogy	naturally problema	itic? (If	f needed, ex	cplain any answei	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach	site map	showing sam	pling poin	t location	ns, transects	, important f	eatures, etc.
Hydric Soil Present? Ye	s/_	No	Is the Sampl within a Wet		Yes✓	No	-
Wetland Hydrology Present? Ye  Remarks: (Explain alternative procedures he			If yes, optiona	al Wetland	Site ID:		
Small depressional wetland fe feature is outside of the survey							y or uno
HYDROLOGY					0	( (	( to
Wetland Hydrology Indicators:	مطر مام ماد ماا	that apply)			Secondary Indica		r two requirea)
Primary Indicators (minimum of one is requir					Surface Soil		
Surface Water (A1) High Water Table (A2)		iter-Stained Leaves uatic Fauna (B13)		Drainage Patterns (B10) Moss Trim Lines (B16)			
Saturation (A3)		rl Deposits (B15)		Moss Triff Lines (BTo) Dry-Season Water Table (C2)			
Water Marks (B1)		drogen Sulfide Odo	or (C1)		Crayfish Burr		,
Sediment Deposits (B2)		idized Rhizosphere			Saturation Vi		nagery (C9)
Drift Deposits (B3)		esence of Reduced	_		Stunted or St		
Algal Mat or Crust (B4)		cent Iron Reduction			✓ Geomorphic		·
Iron Deposits (B5)	Thi	Thin Muck Surface (C7)			Shallow Aqui	tard (D3)	
Inundation Visible on Aerial Imagery (B7	) Oth	ner (Explain in Rem	narks)		Microtopogra	phic Relief (D4)	
Sparsely Vegetated Concave Surface (E	38)				✓ FAC-Neutral	Test (D5)	
Field Observations:							
		epth (inches):					
		epth (inches):					
Saturation Present? Yes N (includes capillary fringe)	No <u>√</u> De	epth (inches):	<b>'</b>	Wetland H	ydrology Presen	t? Yes <u>√</u>	_ No
Describe Recorded Data (stream gauge, mo	nitoring well,	aerial photos, prev	vious inspection	ons), if avail	able:		
Remarks:							
Feature potentially inundated	briefly du	ring the first	part of th	ne arowi	ng season	but is most	lv
saturated during the growing s	•	ge.	, po o	9	g		-,
	, o a o o i i i						

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?		Dominance Test worksheet:
1. Fraxinus nigra				Number of Dominant Species
· ·				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7		= Total Co		
Sapling/Shrub Stratum (Plot size: 15')	30.0	= Total Co	vei	FACW species 60.0 x 2 = 120.0
1				FAC species 0.0 x 3 = 0.0
2				FACU species x 4 =0.0
3				UPL species x 5 =
4				Column Totals:60.0 (A)120.0 (B)
5				Prevalence Index = B/A =2.0
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )	0.0	= 10tai 00	VCI	3 - Prevalence Index is ≤3.0¹
1. Onoclea sensibilis	5.0	Y	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Ulmus americana</u>	5.0	Y	<b>FACW</b>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				1
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	10.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation           Present?         Yes No
	0.0	= Total Co	ver	100 100
Remarks: (Include photo numbers here or on a separate Very little ground cover in this portion of		tland.		

Sampling Point: wirb053f\_w

SOIL Sampling Point: wirb053f\_w

	cription: (Describe	to the dep	oth needed				or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (n		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 3/1	100	00101 (11	10101)	70	Турс		SIL	Romano	
8-18			7.5YR	<b>5/0</b>	20		N /	I	Prominent redox	
0-10	7.51K 4/4	_00_	1.51K	5/6			IVI		Prominent redox	
			-				<u> </u>			
					·					
					·					
									<u> </u>	
1- 0.0								21		
Hydric Soil	oncentration, D=Depl Indicators:	letion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :	
Histosol			Polyva	lue Belov	w Surface	(S8) ( <b>LR</b> I	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )	
	pipedon (A2)			RA 149B)				Coast Prairie Redox (A16) (LRR K, L, R)		
	istic (A3) en Sulfide (A4)				ice (S9) ( <b>L</b> ⁄lineral (F1		LRA 149B) (. L)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2)		-, -,	Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Matrix (F3)					Thin Dark Surface (S9) (LRR K, L)		
	Mucky Mineral (S1)			Redox Dark Surface (F6) Depleted Dark Surface (F7)					langanese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)	
Sandy C	Gleyed Matrix (S4)		Redox Depressions (F8)					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)								arent Material (F21)	
	d Matrix (S6) Irface (S7) ( <b>LRR R, N</b>	ILRA 149	<b>B</b> )						Shallow Dark Surface (TF12) (Explain in Remarks)	
	f hydrophytic vegetat  Layer (if observed):		etland hydro	logy mus	t be prese	nt, unles	s disturbed	or problemati	с.	
Type:	Layer (ii observed):									
	ches):		<del></del>					Hydric Soil	Present? Yes <u>√</u> No	
Remarks:	ches):		<del></del>					,		
	e hydric soil ir	ndicato	r for Red	d Pare	nt Mate	erial.				



wirb053f\_w\_E



wirb053f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	MAL/SAM			
File #:	Date of visit(s):			
wirb053	09/28/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>045N-001W-06</u>	North Central Forest			
	North Ochtran Forest			
Lat: <u>46.404007</u> Long: <u>-90.530392</u>	Watershed: LS13, Tyler Forks			
County: Iron Town/City/Village: Anderson town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
5351B Gogebic silt loam	Wetland Type(s):			
Ŭ	PFO - Hardwood Swamp			
Field Verified:		'		
Series not verified. Soils were silt loam above	Wetland Size:	Wetland Area Impacted		
loam.	0.004	0.004		
	Vegetation:			
	Plant Community Description(s):			
Hydrology:	The canopy is dominated by Fraxinus nigra,			
The hydrologic regime is seasonally saturated.	with a mostly bare ground cover. The present			
The wetland is potentially inundated briefly during	ground vegetation is Onoclea sensibilis and			
the first part of the growing season.	0			
the mot part of the growing season.	Ulmus american	a.		

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	N	Used for educational or scientific purposes
3	Ν	Υ	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	Ν	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
0	N.I.		
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Ν	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N.		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	Ζ	N	water levels or high flows – if no, not applicable
3	Ν	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	IN	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N N	N N	Vegetated wetland associated with a lake or stream
5			Dense, persistent vegetation
6	N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
	N	N	
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ν	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
			·

Wild	llife Hahita	at and Species Observation (including amphibians and reptiles)
List:	: direct ob	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Winte	er, etc.	
Observed F	Potential	Species/Habitat/Comments
	Υ	Avians, small mammals, amphibians
1		
Fish	and Agua	atic Life Habitat and Species Observations
List:	direct ob	eservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed F	Potential	Species/Habitat
Observed 1	Y	Aquatic invertebrates
	-	· · · · · · · · · · · · · · · · · · ·

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located on county land WH-2: missing shrub stratum WH-10, FA-2: likely to support standing water periodically

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Fraxinus nigra			PFO	Abundant
Onoclea sensibilis			PFO	Uncommon
Ulmus americana			PFO	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is low to moderate, with largely bare ground cover. There is low diversity across all represented strata.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
	Х		М	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland and surrounding area is impacted by historic logging and earthworm activity. There is a trail to the we	est
and south of the wetland within the buffer area.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity across all strata, sparse vegetation cover, no invasive species
Human Use Values	Located on county land with limited accessibility to the public, surrounding area is potentially used for hunting
Wildlife Habitat	Small area, low plant diversity but provides canopy habitat
Fish and Aquatic Life Habitat	Supports periodic standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Sparsely vegetated, does not receive a large quantity of runoff from the surrounding area
Water Quality Protection	Not associated with a lake or stream, sparse vegetation
Groundwater Processes	Recharge hydrology

### **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County	y: <u>Iron</u>	Sampling Date: 2019-09-28		
•			Sampling Point: wirb053 υ		
Investigator(s): SAM/MAL	Section, To	ownship, Range: <u>045N-001W</u>	-06		
Landform (hillslope, terrace, etc.): Rise					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Gogebic silt loam, 2					
Are climatic / hydrologic conditions on the site typic	·				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach sit	e map showing samplin	ig point locations, transect	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes	110	he Sampled Area			
	NO <u></u>	hin a Wetland? Yes	No <u>√</u>		
		es, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here of A mesic hardwood system domin		with hasswood			
A mesic narawood system domii	lated by Sugai Maple	with basswood.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)		
Primary Indicators (minimum of one is required;	check all that apply)	Surface Sc	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9	9) Drainage F	Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C		urrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on		Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron		Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in 1		ic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3) Microtopographic Relief (D4)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	· — · ·	ral Test (D5)		
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neuti	ai Test (D5)		
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):		ent? Yes No✓_		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous	inspections), if available:			
Remarks:					
No primary or secondary indicate	ors of wetland hydrolo	gy.			

**VEGETATION** – Use scientific names of plants.

Tree Charters (Diet sine) 201	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Acer saccharum			FACU	That Are OBL, FACW, or FAC:1.0 (A)
2. <u>Tilia americana</u>				Total Number of Dominant Species Across All Strata: 5.0 (B)
3				Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 (A/B)
5				That Ale OBE, I AGW, OF AC (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	95.0	= Total Cov	/er	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species
1. Ostrya virginiana			<u>FACU</u>	FAC species 30.0 x 3 = 90.0 FACU species 175.0 x 4 = 700.0
2. Fraxinus nigra	5.0	N	<u>FACW</u>	UPL species
3				Column Totals: <u>210.0</u> (A) <u>800.0</u> (B)
4				
5				Prevalence Index = B/A =3.8
6	<u> </u>			Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	55.0	= Total Cov	/er	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:5' )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Carex pedunculata		<u>Y</u>	<u>FAC</u>	data in Remarks or on a separate sheet)
2. Mitchella repens		<u>Y</u>	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Aralia nudicaulis</u>	5.0	N	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Dirca palustris</u>	5.0	N	<u>FAC</u>	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	60.0	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3.				Hydrophytic
4				Vegetation
		= Total Cov	/er	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate see Immediate area with partridgeberry and canopy of primarily sugar maple.		peducul	lata don	ninating the ground layer and a

Sampling Point: wirb053 u

SOIL Sampling Point: wirb053\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of ind	icators.)
Depth (in the set)	Matrix	0/		x Features		Loc <sup>2</sup>	Tautuma	Remarks
(inches) 0-4	Color (moist) 10YR 3/1	100	Color (moist)	<u> %</u>	Type'	LOC	SL	Remarks
4-9	7.5YR 3/3	100					SL	_
	5YR 4/4						SL	
		:						
1Tuno: C. C	Concentration D. Doni	letion DM	Dadwaad Matrix MS	- Maakaa			2l acetion: DL [	Para Lining M. Matrix
Hydric Soil  Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Strippee Dark St	Concentration, D=Deplementation, D=Deplementation, D=Deplementation (A1) Indicators:  I (A1) Ipipedon (A2) Idistic (A3) Idistic (A3) Idistic (A4) Idistic (A4) Idistic (A5) Idistic (A5) Idistic (A5) Idistic (A2) Idistic (A2) Idistic (A1) Idistic (A2) Idistic (A1) Idistic (A2) Idistic (A2) Idistic (A2) Idistic (A3) Idistic (A4) Idistic (A3) Idistic (A4) Idia (A4) Idistic (A4) Idia (A4) Idistic (A4) Idistic (A4) Idia (	E (A11)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface  ace (S9) (L  dineral (F'  Matrix (F2  (F3)  rface (F6)  Surface (F  ions (F8)	(S8) (LRF LRR R, MI I) (LRR K )	R R, _RA 149B) , L)	Indicators for Pr 2 cm Muck (A Coast Prairie 5 cm Mucky I Dark Surface Polyvalue Be Thin Dark Su Iron-Mangane Piedmont Flo Mesic Spodic Red Parent M Very Shallow Other (Explai	Pore Lining, M=Matrix.  oblematic Hydric Soils <sup>3</sup> :  A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L) low Surface (S8) (LRR K, L) rface (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) Dark Surface (TF12) n in Remarks)
Туре:							Hydria Sail Brasa	nt2 Voc. No. /
Depth (in Remarks:	nches):		<del></del>				nyunc son Frese	nt? Yes No <u>√</u>
No redo:	x features or h	ydric so	il indicators o	bserve	ed.			



wirb053\_u\_E



wirb053\_u\_S

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u>		Sampling Date: <u>2019-09-28</u>	
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: wirb052f_w	
Investigator(s): SAM/MAL	Section, Township,	Range: <u>045N-001W-0</u>	6	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, o	convex, none): Concave	Slope (%): <u>0-2%</u>	
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.40	)3831	Long: <u>-90.529978</u>	Datum: WGS84	
Soil Map Unit Name: Gogebic silt loam, 2 to 6 perc				
Are climatic / hydrologic conditions on the site typical for this tim				
Are Vegetation, Soil, or Hydrology signif	-			
Are Vegetation, Soil, or Hydrology natur				
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poir	it locations, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes ✓ No	Is the Samp			
Hydric Soil Present? Yes ✓ No		tland? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separat		nal Wetland Site ID:		
A small wet forest depression dominated to				
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indicat	tors (minimum of two required)	
Primary Indicators (minimum of one is required; check all that		Surface Soil (		
	tained Leaves (B9)	Drainage Patterns (B10)		
High Water Table (A2) Aquatic Saturation (A3) Marl Dep		<ul><li> Moss Trim Lines (B16)</li><li> Dry-Season Water Table (C2)</li></ul>		
	en Sulfide Odor (C1)	Crayfish Burro		
	d Rhizospheres on Living R		sible on Aerial Imagery (C9)	
	e of Reduced Iron (C4)		ressed Plants (D1)	
Algal Mat or Crust (B4) Recent I	ron Reduction in Tilled Soi	ls (C6) Geomorphic F	Position (D2)	
	ck Surface (C7)	Shallow Aquit	· · ·	
	explain in Remarks)		phic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)	
Field Observations:	Saraha a Na			
Surface Water Present? Yes No _ ✓ Depth (				
Water Table Present? Yes No✓ Depth ( Saturation Present? Yes No✓ Depth (		Wetland Hydrology Present	t? Ves / No	
(includes capillary fringe)			1: 1es <u>v</u> No	
Describe Recorded Data (stream gauge, monitoring well, aeria	ıl photos, previous inspecti	ons), if available:		
Remarks:				
Soils moist but not saturated. Feature with	ı inundation in the	spring but saturated	d overall.	

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?		Dominance Test worksheet:
1. Fraxinus nigra				Number of Dominant Species
•				That Are OBL, FACW, or FAC:4.0 (A)
2				Total Number of Dominant Species Across All Strata: 4.0 (B)
4				(,,
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov		
Sapling/Shrub Stratum (Plot size: 15')	30.0	= 10tai 00t	, C1	FACW species
1. <u>Ulmus americana</u>	5.0	Υ	FACW	FAC species 0.0 x 3 = 0.0
2				FACU species x 4 =
3				UPL species x 5 =0.0
4				Column Totals: <u>67.0</u> (A) <u>122.0</u> (B)
5				Prevalence Index = B/A =1.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )	0.0	_ 10tal 00t		3 - Prevalence Index is ≤3.0¹
1. Lycopus virginicus	5.0	<u>Y</u>	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex crinita</u>	5.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Scutellaria lateriflora</u>		N	OBL	
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	12.0	= Total Cov	/er	neight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation   Present?
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate Black ash depression that is sparsely v downed coarse woody debris.		d. Most	of the h	erbaceous vegetation growing on

Sampling Point: wirb052f\_w

SOIL Sampling Point: wirb052f\_w

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	ndicators.)
Depth	Matrix	0/		x Features		1 2	Tautuna	Damadia
(inches) 0-2	Color (moist) 7.5YR 4/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
2-4	10YR 2/1	100					<del>_</del>	
4-18		100		·			_ <del>_</del>	
	_	-		·				
	_	-						
		· <del></del> · ·- <u>-</u>		·				
				·				
				·				
<sup>1</sup> Type: C=C	concentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		.=Pore Lining, M=Matrix.
Hydric Soil			5 5.	0 (	(00) (LDE			Problematic Hydric Soils <sup>3</sup> :
Histoso Histic E	i (A1) pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(S8) (LRF	КΚ,		(A10) ( <b>LRR K, L, MLRA 149B</b> ) rie Redox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)	-	Thin Dark Surfa					y Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	<ul><li>Loamy Mucky N</li><li>Loamy Gleyed I</li></ul>			, L)		ce (S7) ( <b>LRR K, L</b> ) Below Surface (S8) ( <b>LRR K, L</b> )
-	d Below Dark Surface	e (A11)	✓ Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	-	Redox Dark Su Depleted Dark \$		7)		_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
Sandy (	Gleyed Matrix (S4)	-	Redox Depress		.,		Mesic Spoo	dic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5) d Matrix (S6)							t Material (F21) ow Dark Surface (TF12)
	urface (S7) (LRR R, N	ILRA 149B	)					lain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic vegetat	ion and wet	land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:							Hydric Soil Pre	sent? Yes <u>√</u> No
Remarks:	ches):		<u>—</u>				Tryanc con i ic.	30H: 103 <u>v</u> H0
	d matrix observ	ved.						



wirb052f\_w\_E



wirb052f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	MAL/SAM			
File #:	Date of visit(s):			
wirb052	09/28/2019			
Location:	Ecological Landsca	ape:		
PLSS: <u>045N-001W-06</u>	North Central Forest			
	THORIT GOTTI GIT OF GOT			
Lat: <u>46.403725</u> Long: <u>-90.529463</u>	Watershed:			
	LS13, Tyler Forks			
County: Iron Town/City/Village: Anderson town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
5351B Gogebic silt loam	Wetland Type(s):			
	PFO - Hardwood Swamp			
Field Verified:				
Series not verified. Soils were loam throughout	Wetland Size:	Wetland Area Impacted		
the profile.	0.03	0.03		
	Vegetation:			
	Plant Community D	Description(s):		
Hydrology:	The canopy is dominated by Fraxinus nigra			
The hydrologic regime is seasonally saturated,	with sparse ground cover present.			
and the feature is likely inundated in the spring.	With oparoo groc	and dovor prodont.		
, , , , , , ,				

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	N	Used for educational or scientific purposes
3	Ν	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6			Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	Ν	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows - if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	V	\/	Provides substantial storage of storm and floodwater based on previous section
	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
	Y	Y	
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
J	IN	I N	Trouving to within a weithoug protection area

Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avians, amphibians, reptiles Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

HU-1: surrounding forested area may be used for hunting

HU-3: located on county land

ST-3: sparsely vegetated herbaceous cover ST-5: located near road

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Ulmus americana			PFO	Uncommon
Lycopus virginicus			PFO	Uncommon
Carex crinita			PFO	Uncommon
Scutellaria lateriflora			PFO	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is low to moderate with sparse coverage across three strata. Native species are present within the wetland. Diversity is low overall with a prominent canopy cover of Fraxinus nigra.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
	Х		M	С	Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
Х	V		N 4	0	Removal of herbaceous stratum – mowing,		
X	X		M	С	grading, earthworms, etc.		
Х	Х	Х	М	С	Removal of tree or shrub strata – logging,		
^					unprescribed fire		
	Χ		M	С	Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
					Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is impacted by logging and earthworm activity. A trail is present to the north of the wetland within the buffer area.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity	<b>√</b>									
Human Use Values	<b>√</b>									
Wildlife Habitat	<b>√</b>									
Fish and Aquatic Life Habitat		<b>✓</b>								
Shoreline Protection					<b>1</b>					
Flood and Stormwater Storage	<b>√</b>									
Water Quality Protection	<b>√</b>									
Groundwater Processes	<b>√</b>									

FUNCTION	RATIONALE
Floristic Integrity	Low diversity across three strata
Human Use Values	Located on county land with limited accessibility to the public, surrounding forested area may be used for hunting purposes
Wildlife Habitat	May provide habitat for aquatic and arboreal species
Fish and Aquatic Life Habitat	Saturated soils and standing water are present seasonally
Shoreline Protection	N/A
Flood and Stormwater Storage	Sparsely vegetated and does not receive a large quantity of stormwater from the surrounding area
Water Quality Protection	Sparse vegetative cover and no direct connection to surface water
Groundwater Processes	Saturated soils at times but is primarily fed by precipitation and runoff

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iror</u>	1	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: <u>wirb052 υ</u>
Investigator(s): SAM/MAL	Section, Township	, Range: <u>045N-001W-0</u>	6
Landform (hillslope, terrace, etc.): Rise	Local relief (concave,	convex, none): None	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic silt loam, 2			
Are climatic / hydrologic conditions on the site typic	•	•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach sit	e map snowing sampling poil	nt locations, transects,	important features, etc.
	No ✓ Is the Sam		
	No✓ within a W	etland? Yes	No/
		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here of A mesic hardwood system with a		nly sugar manle	
7 mesic narawood system with a	continuous cartopy of mai	Tily Sugai Mapic.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; of	check all that apply)	Surface Soil 0	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patt	terns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lir	nes (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season V	Vater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living I		sible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Sc		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquit	
	Other (Explain in Remarks)		ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Present	t? Yes No✓_
(includes capillary fringe)		,	
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspect	ions), if available:	
Remarks:			
No primary or secondary indicate	ors of wetland hydrology.		

**VEGETATION** – Use scientific names of plants.

T. O (D )	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')			Status	Number of Dominant Species
1. Acer saccharum				That Are OBL, FACW, or FAC:(A)
2. <u>Tilia americana</u>				Total Number of Dominant
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 (A/B)
5				That Are OBL, FACW, or FAC:(A/B)
6				Prevalence Index worksheet:
7		_		Total % Cover of: Multiply by:
	80.0	= Total Co	over	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>0.0</u> x 2 = <u>0.0</u>
1				FAC species 30.0 x 3 = 90.0
2				FACU species <u>145.0</u> x 4 = <u>580.0</u> UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals: 175.0 (A) 670.0 (B)
4				
5				Prevalence Index = B/A = 3.8
6				Hydrophytic Vegetation Indicators:
7		_		1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. Carex pedunculata	25.0	Y	FAC	data in Remarks or on a separate sheet)
2. Gymnocarpium dryopteris	25.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Mitchella repens</u>	20.0	Y	<u>FACU</u>	1 Indicators of hydric soil and wetland hydrology must
4. Ostrya virginiana	10.0	N	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Cornus alternifolia</u>		N	<u>FACU</u>	Definitions of Vegetation Strata:
6. Athyrium angustum	5.0	N	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	95.0	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
		= Total Co	over	rresent? res No
Remarks: (Include photo numbers here or on a separate canopy dominated by sugar maple with winterberry, and lady fern.		ound la	yer cons	sisting of Carex pedunculata,

Sampling Point: wirb052 u

SOIL Sampling Point: wirb052\_u

Profile Desc	cription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix	0/	Redo:	x Features		1 2	T	Remarks
(inches) 0-5	7.5YR 4/3	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
5-18							<del>_</del>	
3 10	7.0110 0/0	100						
				· <del></del>				
				· <del></del>				
				· <del></del>				
				· <del></del>				
1 <sub>T. max</sub> C. C			Dadwaad Matrix MC	- Maaliaa		-:	21	D. Dave Linian M. Matrix
Hydric Soil	oncentration, D=Depl Indicators:	etion, Rivi=	Reduced Matrix, MS	s=iviasked	Sand Gra	ains.	Indicators fo	PL=Pore Lining, M=Matrix.  r Problematic Hydric Soils <sup>3</sup> :
Histosol		-	Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		.RR R, MI	-RA 149B)		airie Redox (A16) ( <b>LRR K, L, R</b> ) cky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
Hydroge	en Sulfide (A4)	-	Loamy Mucky N	/lineral (F1	) (LRR K		Dark Sur	face (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	e (A11)	<ul><li>Loamy Gleyed I</li><li>Depleted Matrix</li></ul>		)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
Thick D	ark Surface (A12)	-	Redox Dark Su	rface (F6)			Iron-Man	ganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)		<ul><li>Depleted Dark S</li><li>Redox Depress</li></ul>		7)			t Floodplain Soils (F19) ( <b>MLRA 149B</b> ) odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
Sandy F	Redox (S5)	- -		( - /			Red Pare	ent Material (F21)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B	)					ıllow Dark Surface (TF12) xplain in Remarks)
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Type:	Layer (if observed):							
	ches):		<del></del>				Hydric Soil Pr	resent? Yes No/
Remarks:								
No redox	x features or h	ydric so	il indicators o	bserve	ed.			



wirb052\_u\_N



wirb052\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project Ci	ity/County: <u>Iron</u> Sampling Date: <u>2019-09-28</u>
•	State: WI Sampling Point: wirb051e_w
_	ection, Township, Range: <u>045N-001W-05</u>
	I relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.526839</u> Datum: <u>WGS84</u>
	opes, very stony, rocky NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	sturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probl	
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	
Excavated borrow pit dominated by graminoids.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<u> </u>
Surface Water (A1) Water-Stained Le	
High Water Table (A2) Aquatic Fauna (B	
✓ Saturation (A3) MarI Deposits (B1)	
Water Marks (B1) Hydrogen Sulfide Sediment Deposits (B2) Oxidized Rhizosp	Odor (C1) Crayfish Burrows (C8)  wheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Oxidized Kriizosp Drift Deposits (B3) Presence of Redu	
<u> </u>	uction in Tilled Soils (C6)  Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface	
Inundation Visible on Aerial Imagery (B7) Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ _ Depth (inches): _	
Water Table Present? Yes No✓ Depth (inches): _	
Saturation Present? Yes _ \( \sqrt{No} \) Depth (inches): (inches)	0 Wetland Hydrology Present? Yes✓ No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks:	
Appears to be saturated throughout the entire gi	rowing season.
The same is an estimated and agreement grown and grown a	

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:6.0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				That Are OBL, FACW, or FAC:(A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' )		= Total Co	vei	OBL species 50.0 x 1 = 50.0 FACW species 15.0 x 2 = 30.0
1. Salix discolor	5.0	Υ	FACW	FAC species 0.0 x 3 = 0.0
2				FACU species 0.0 x 4 = 0.0
3.				UPL species x 5 = (B)  Column Totals: 65.0 (A) (B)
4				
5				Prevalence Index = B/A =1_2
6				Hydrophytic Vegetation Indicators:
7				
	5.0	= Total Co	ver	✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	20.0	V	ODI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
Scirpus cyperinus     Juncus effusus			OBL OBL	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Junicus errusus</u> 3. <u>Phalaris arundinacea</u>			FACW	resistant riyaropriyas vegetanen (Explain)
4. Glyceria cf. maxima			OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Lycopus americanus			OBL	Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10		-		Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
201	60.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			
Graminoid-dominated.				

Sampling Point: wirb051e\_w

SOIL Sampling Point: wirb051e\_w

Profile Desc	cription: (D	escribe	to the dep	th needed to docum	nent the i	ndicator	or confirm	the absence of	of indicators.)	
Depth (inches)	Color (r	Matrix	%	Color (moist)	K Features	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-1	10YR	2/1	100	Color (moist)	70	туре	LUC		Remarks	
1-2	7.5YR		100					SCL		
1-2	7.011	0/0	100					OOL		
	-		· ——							
			·							
	-		·							
								·		
								·		
Type: C=Ce Hydric Soil			letion, RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :	
Histosol				Polyvalue Belov	y Surface	(S8) (I <b>D</b> E	) D		uck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2	)		MLRA 149B)		(30) (LKI	Λ,		Prairie Redox (A16) (LRR K, L, R)	
Black Hi	istic (A3)			Thin Dark Surfa		.RR R, MI	RA 149B)		ucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A			Loamy Mucky M			, <b>L</b> )		urface (S7) (LRR K, L)	
	d Layers (At d Below Dai		o (A11)	Loamy Gleyed Matrix		)			ue Below Surface (S8) ( <b>LRR K, L</b> )  urk Surface (S9) ( <b>LRR K, L</b> )	
	ark Surface		5 (ATT)	Redox Dark Sur					inganese Masses (F12) (LRR K, L, R)	
	/lucky Miner			Depleted Dark S		7)			nt Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matri	x (S4)		Redox Depressi	ons (F8)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )	
	Redox (S5)							Red Parent Material (F21)		
	Matrix (S6)		/ILRA 149I	3)					nallow Dark Surface (TF12) Explain in Remarks)	
<sup>3</sup> Indicators of Restrictive I		-		etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Type: be	• •	scivea).								
	ches): 2							Hydric Soil F	Present? Yes/ No	
Remarks:	cries). <u>Z</u>			<del></del>				,		
	o dia na	st two	inches	due to hedro	sk Soi	ls assi	imed to	he hydric	considering the landscape	
	• .			, and apparen				-	considering the landscape	
poortion,	aomina	nic vog	otation	, and apparen	t proto	ngoa c	ataratic	311.		



wirb051e\_w\_NW



wirb051e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION	
Project name: Line 5 Relocation Project	Evaluator(s): MAL/SAM
File #: wirb051	Date of visit(s): 09/28/2019
Location: PLSS: 045N-001W-05	Ecological Landscape:  North Central Forest
Lat: <u>46.402815</u> Long: <u>-90.526912</u>	Watershed: LS13, Tyler Forks
County: Iron Town/City/Village: Anderson town	
SITE DESCRIPTION	
Soils: Mapped Type(s):	WWI Class:
5351B Gogebic silt loam	Wetland Type(s): PEM - Fresh Wet Meadow
Field Verified:	
Series not verified. Soils were loam above sandy clay loam.	Wetland Size: Wetland Area Impacted 0.04 0.04
	Vegetation: Plant Community Description(s):
Hydrology: The hydrologic regime is seasonally saturated. The feature is a deep depression with groundwater influence, as well as recharge hydrology.	The vegetation is graminoid-dominated, consisting primarily of Scirpus cyperinus.

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	Υ	Visually or physically accessible to public
4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
8	N I	N	Part of a large habitat block that supports area sensitive species
9	N N	Y	Ephemeral pond with water present $\geq$ 45 days
10			Standing water provides habitat for amphibians and aquatic invertebrates
-	Y	Y	• 1
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Ν	N	Vegetated wetland associated with a lake or stream
5	Ν	N	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	.,		Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland  Wetland remains acturated for an extended time period with neadditional water inputs
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
<u>4</u> 5	N	N	Wetland soils are organic
1 5 1	N	N	Wetland is within a wellhead protection area

\A/:		st and Species Observation (including approhibitors and reptiles)
		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
wii	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Υ	Avians, amphibians, reptiles
Υ	Υ	Toad
	1	
Eio	h and Agus	atic Life Habitat and Species Observations
Lis	st: direct ob	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates
-		

Section 1 Comments (Refer to Section 1 numbers)

GW-3: groundwater activity but also receives additional water inputs ST-5: located alongside roadway WQ-5: moderate vegetation coverage

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Titute Community intogrety (Circle)								
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4 🗸	S3	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix discolor			PEM	Uncommon
Scirpus cyperinus			PEM	Common
Juncus effusus			PEM	Common
Phalaris arundinacea			PEM	Common
Glyceria cf. maxima			PEM	Common
Lycopus americanus			PEM	Common

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland is disturbed and likely artificial, dominated by graminoid species with some invasive species cover and overall limited diversity.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V		N 4	0	Removal of herbaceous stratum – mowing,
	Х		M	С	grading, earthworms, etc.
Х	Х	Х	N/I	С	Removal of tree or shrub strata – logging,
Α	Α	^	M		unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Χ		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Th	e feature is impacted by invasive species cover, historic logging, earthworm activity, and an unpaved trail within	
th	e buffer.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>1</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low to moderate diversity with notable invasive species cover
Human Use Values	Located on county land with limited accessibility to the public, unlikely to be used for recreation or research purposes
Wildlife Habitat	Small size, provides habitat for species occupying disturbed areas
Fish and Aquatic Life Habitat	Collects and pools water in areas, saturated
Shoreline Protection	N/A
Flood and Stormwater Storage	Steep basin, moderately vegetated herbaceous layer
Water Quality Protection	Likely collects moderate quantities of rainwater, not associated with a waterbody
Groundwater Processes	Wetland is flanked by steep slopes and has evidence of groundwater processes

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iro</u>	<u>1</u>	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: <u>wirb051 υ</u>
Investigator(s): SAM/MAL	Section, Township	o, Range: <u>045N-001W-0</u>	5
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Gogebic silt loam, 2			
Are climatic / hydrologic conditions on the site typica		•	
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map showing sampling po	nt locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam		
		etland? Yes	No <u></u>
		onal Wetland Site ID:	_
Remarks: (Explain alternative procedures here or A mesic hardwood community of s	in a separate report.)	od	
A mesic nardwood community of s	sugai mapie and basswo	Ju.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil (	Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Patt	
	Aquatic Fauna (B13)	Moss Trim Lir	
	Marl Deposits (B15)		Vater Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
1 — · · · · ·	Presence of Reduced Iron (C4)		ressed Plants (D1)
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>	oils (C6) Geomorphic F Shallow Aquit	
	Other (Explain in Remarks)		ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Nemarks)	FAC-Neutral	` '
Field Observations:			1 001 (20)
Surface Water Present? Yes No v	/ Depth (inches):		
	/ Depth (inches):		
	/ Depth (inches):	Wetland Hydrology Present	t? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorir	ng well aerial photos previous inspec	tions) if available:	
Describe Necorded Data (stream gauge, monitorii	ig well, deliai priotos, previous irispec	tions), ii avaliable.	
Remarks:	e of watland budralagy		
No primary or secondary indicator	s or wettarid riyurology.		

**VEGETATION** – Use scientific names of plants.

	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')			Status_	Number of Dominant Species
1. Acer saccharum				That Are OBL, FACW, or FAC: 2.0 (A)
2. <u>Ulmus americana</u>	20.0	Y	<u>FACW</u>	Total Number of Dominant
3				Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 33.3333333333333 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	57.5	= Total Co	over	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>20.0</u> x 2 = <u>40.0</u>
1.				FAC species <u>20.0</u> x 3 = <u>60.0</u>
2.				FACU species <u>64.5</u> x 4 = <u>258.0</u>
3.				UPL species 10.0 x 5 = 50.0
4				Column Totals: <u>114.5</u> (A) <u>408.0</u> (B)
5				Prevalence Index = B/A =3.6
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
· .	0.0			2 - Dominance Test is >50%
Harb Stratum (Plataire: 5'	0.0	= Total CC	)vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Carex pedunculata	20.0	Υ	FAC	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Eurybia macrophylla		Υ	UPL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Ostrya virginiana</u>		Y	FACU	
4. Solidago canadensis		Y	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Tilia americana	5.0	N	FACU	
6. Symphyotrichum ciliolatum		N	NL	Definitions of Vegetation Strata:
		N	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
· <u>-</u> ·	57.0	= Total Co	over	height.
Woody Vine Stratum (Plot size:30')	01.0	_ 10141 00	,,,,,	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No✓
Remarks: (Include photo numbers here or on a separate	· ·	= Total Co	over	
Canopy dominated by sugar maple with	sneet.) n large-l	eaved	aster. Liı	ndlev's aster, and Carex pedunculata
in the ground layer.	3.		,	γ ο οιοιοί, οιτα ο οιι ρ ο οιοιοίο
3				

Sampling Point: wirb051 u

SOIL Sampling Point: wirb051\_u

Profile Desc	ription: (De	escribe t	to the dep	oth needed to docum			or confirm	the absence	of indicators.)
Depth (inches)	Color (m	Matrix	%	Color (moist)	x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	-			Color (Inoist)		Туре		<u>rexture</u>	Remarks
0-2	<u>7.5YR</u>	3/2	100						
	•			-					
<sup>1</sup> Type: C=Co	oncentration.	. D=Depl	etion. RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location:	: PL=Pore Lining, M=Matrix.
Hydric Soil			,	, ,					for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)			Polyvalue Below	v Surface	(S8) ( <b>LRF</b>	RR,		luck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			MLRA 149B)					Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3) :n Sulfide (A4	1)		Thin Dark Surfa Loamy Mucky M					flucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L)
	d Layers (A5			Loamy Gleyed N			, <b>L</b> )		lue Below Surface (S8) (LRR K, L)
	d Below Dark		e (A11)	Depleted Matrix		,		-	ark Surface (S9) (LRR K, L)
	ark Surface (			Redox Dark Sur	. ,				anganese Masses (F12) (LRR K, L, R)
	lucky Minera			Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix Redox (S5)	(54)		Redox Depressi	ons (F8)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) arent Material (F21)
	Matrix (S6)								hallow Dark Surface (TF12)
	rface (S7) (L	.RR R, M	ILRA 149	<b>B</b> )					Explain in Remarks)
3Indiantors	f budraabuti	vogetet	ion and w	otland budralagu mua	t ha nraac	nt unlace	diaturbad	or problematic	
Restrictive I		_		etland hydrology mus	t be prese	ent, uniess	aisturbea	T problematic	
Type: <u>co</u>	• •								
Depth (inc								Hydric Soil	Present? Yes No✓
Remarks:	Jiles). <u>Z</u>							,	
	feature	s or h	vdric s	oil indicators o	bserve	ed with	in the fi	irst two inc	ches. Unable to dig past
			-						on landscape position and
dominan			, Da	dono aro acco	iiiioa t	0 00 110	on my an	io bacca c	on landocapo pocinion and
a o i i i i i i i i i i i i i i i i i i	· rogota								



wirb051\_u\_NE



wirb051\_u\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u>		Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: wirb050f_w
Investigator(s): SAM/MAL	Section, Township, Range	e: <u>045N-001W-0</u>	5
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.402			
Soil Map Unit Name: Tula-Gogebic complex, 0 to 6			
Are climatic / hydrologic conditions on the site typical for this time of			
Are Vegetation, Soil, or Hydrology significa			
Are Vegetation, Soil, or Hydrology naturall			
SUMMARY OF FINDINGS – Attach site map show	ing sampling point loc	ations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Ar		
Hydric Soil Present? Yes ✓ No	within a Wetland?	? Yes <u>√</u>	No
Wetland Hydrology Present? Yes No	1 2 1	tland Site ID:	
Remarks: (Explain alternative procedures here or in a separate in Small depressional black ask basin with gradients	eport.)		
Small depressional black ash basin with gra	minoid cover.		
LIVEROLOGY			
HYDROLOGY Wetland Hydrology Indicators:		Socondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	olv)	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	ned Leaves (B9)	Ourlade Soir C	
Gunace Water (A1) Water-Star High Water Table (A2) Aquatic Fa		Moss Trim Lir	
Saturation (A3) Marl Depos			Vater Table (C2)
	Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2) Oxidized R	hizospheres on Living Roots (0	C3) Saturation Vis	sible on Aerial Imagery (C9)
<u> </u>	of Reduced Iron (C4)	<del></del>	ressed Plants (D1)
	n Reduction in Tilled Soils (C6)		
Iron Deposits (B5) Thin Muck		Shallow Aquit	
	lain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral <sup>-</sup>	Test (D5)
Field Observations:	de a a V		
Surface Water Present? Yes No _ ✓ Depth (inc			
Water Table Present? Yes No _ ✓ Depth (incompared to the present of the pr		and Hydrology Present	t? Yes <u>√</u> No
(includes capillary fringe)			1: 165 <u>v</u> 110
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if	f available:	
Remarks:			
Feature appears to be saturated during mos	st of the growing sea	son.	

**VEGETATION** – Use scientific names of plants.

<b>EGETATION</b> – Use scientific names of plants.		Sampling Point: wirb050f_w		
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:  Number of Dominant Species
1. <u>Fraxinus nigra</u>	50.0	Y	<u>FACW</u>	That Are OBL, FACW, or FAC: 8 (A)
2. <u>Ulmus americana</u>	10.0	N	<u>FACW</u>	Total Number of Dominant
3				Species Across All Strata:8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Cov	/er	OBL species30 x 1 =30
Sapling/Shrub Stratum (Plot size:)				FACW species82 x 2 =164
1. <u>Fraxinus nigra</u>	10.0	<u>Y</u>	<u>FACW</u>	FAC species <u>5</u> x 3 = <u>15</u>
2. <u>Ilex verticillata</u>	5.0	Y	<u>FACW</u>	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
3				Column Totals: 117 (A) 209 (B)
4				
5				Prevalence Index = B/A =1.79
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	15	= Total Cov	/er	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting)
1. Carex tuckermanii	20.0	Y	OBL	data in Remarks or on a separate sheet)
2. Glyceria striata	5.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Dryopteris carthusiana</u>	5.0	Y	<b>FACW</b>	The directions of headrings if you described the dealers were
4. Carex tenera	5.0	Y	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Lycopus uniflorus</u>	5.0	Y	OBL	Definitions of Vegetation Strata:
6. <u>Poa palustris</u>	2.0	N	<b>FACW</b>	
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	42.0	= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
		= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			
The majority of the ground is bare withi	n the de	epressio	n and th	ne most prevalent herbaceous species
is Carex tuckermanii.				

SOIL Sampling Point: wirb050f\_w

Profile Desc	cription: (D	escribe	to the dep	oth needed				or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist) %			Redox Features Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>					Texture	Remarks	
0-3		3/1	100	00101 (11	1101017		1,750		L	Nomano	
3-6	10YR	6/1	80	7.5YR	6/6	20	С	M	L	Prominent redox	
6-18	5YR	4/4	85	5YR	5/8	_15	C	M	L	Prominent redox	
			·					·			
¹Type: C=C  Hydric Soil  Histosol	Indicators:		letion, RM	Polyva		v Surface			Indicators 2 cm l	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³: Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
Hydroge Stratifie Deplete Thick D Sandy N Sandy F Stripped	Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 148)				<ul> <li>Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li>Loamy Mucky Mineral (F1) (LRR K, L)</li> <li>Loamy Gleyed Matrix (F2)</li> <li>✓ Depleted Matrix (F3)</li> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> <li>Redox Depressions (F8)</li> </ul>				5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
<sup>3</sup> Indicators o		_		etland hydro	ology mus	t be prese	nt, unless	s disturbed o	or problemation	С.	
Type:											
Depth (in	nches):								Hydric Soil	Present? Yes No	
Remarks: Soils me	et both	the De	epleted	Matrix a	and Re	ed Pare	ent Ma	terial hy	dric soil i	indicators.	



wirb050f w N



wirb050f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/SAM	
File #: wirb050	Date of visit(s): 09/28/2019	
Location: PLSS: 045N-001W-05	Ecological Landsca North Central Forest	ape:
Lat: <u>46.402472</u> Long: <u>-90.527575</u>	Watershed: LS13, Tyler Forks	
County: Iron Town/City/Village: Anderson town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
5353B Tula-Gogebic complex Field Verified:	Wetland Type(s): PFO - Hardwoo	d Swamp
Series not verified. Soils were loam throughout the profile.	Wetland Size: 0.06	Wetland Area Impacted 0.06
	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is seasonally saturated.	with a dominant	ominated by Fraxinus nigra ground cover of Carex ugh the majority of the ground wetland.

SITE MAP		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	Υ	Visually or physically accessible to public
4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- ' '	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	
			plans
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3			Water flow through wetland is NOT channelized
	Y	Y	
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	I IN	Troduction maint a frontious protocolori aroa

	Section 1 Comments (Refer to Section 1 numbers)						
	ovides habitat for mul	tiple bird species on the WI All Birds Conservation Plan					
Wi	ildlife Habita	at and Species Observation (including amphibians and reptiles)					
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,					
wi	nter, etc.						
Observed	Potential	Species/Habitat/Comments					
ODSCIVCU	Y	Avians, small mammals					
		, and the second					
		atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.					
<b>L</b> IV	ot. direct of	socivation, other sign, type or number. Hesting, spawning, nursery areas, etc.					
Observed	Potential	Species/Habitat					

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional	
Invasive species cover	> 50%	20-50%	10-20%	<10%	
Strata Missing stratum(a) or bare due to invasive species		All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented	
NHI plant community ranking	S4	S3 <b>√</b>	S2	S1-S2 (S2 high quality)	
Relative frequency of plant community in watershed  Abundant		Common	Uncommon	Rare	
FQI (optional)	<13	13-23	23-32	>32	
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7	

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Ulmus americana			PFO	Common
llex verticillata			PFO	Uncommon
Carex tuckermanii			PFO	Common
Glyceria striata			PFO	Uncommon
Dryopteris carthusiana			PFO	Uncommon
Carex tenera			PFO	Uncommon
Lycopus uniflorus			PFO	Uncommon
Poa palustris			PFO	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The feature has low to moderate plant diversity with vegetation across three strata. The vegetation is comprised of native species expected within the plant community.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor			
					Filling, berms (non-impounding)			
					Drainage – tiles, ditches			
					Hydrologic changes - high capacity wells,			
					impounded water, increased runoff			
					Point source or stormwater discharge			
					Polluted runoff			
					Pond construction			
					Agriculture – row crops			
					Agriculture – hay			
					Agriculture – pasture			
					Roads or railroad			
					Utility corridor (above or subsurface)			
					Dams, dikes or levees			
					Soil subsidence, loss of soil structure			
					Sediment input			
V			N 4	0	Removal of herbaceous stratum – mowing,			
X	X		M	С	grading, earthworms, etc.			
V	V	V	N.4	0	Removal of tree or shrub strata – logging,			
X	X	X	M	С	unprescribed fire			
	Х		M	С	Human trails – unpaved			
					Human trails – paved			
					Removal of large woody debris			
					Cover of non-native and/or invasive species			
					Residential land use			
					Urban, commercial or industrial use			
					Parking lot			
					Golf course			
					Gravel pit			
				Recreational use (boating, ATVs, etc.)				
				Excavation or soil grading				
				Other (list below):				

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

ı	The feature is impacted by historic logging and earthworm activity. An unpaved OHV trail is present to the east and
I	the north of the wetland within the buffer area.
I	
I	
I	
I	
I	
ı	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>√</b>			
Wildlife Habitat		<b>√</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low to moderate diversity across three strata, native vegetation
Human Use Values	Located on county land along OHV trail with limited accessibility to the public, potentially used for hunting
Wildlife Habitat	Habitat present for arboreal species
Fish and Aquatic Life Habitat	Unlikely to support standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature receives runoff from the surrounding uplands, sparse vegetation
Water Quality Protection	Sparsely vegetated, not associated with a river or stream
Groundwater Processes	Saturated during most of the growing season

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>  r</u>	on	Sampling Date: 2019-09-28			
Applicant/Owner: Enbridge						
Investigator(s): SAM/MAL	Section, Towns	hip, Range: 045N-001W-0	5			
Landform (hillslope, terrace, etc.): Rise						
Subregion (LRR or MLRA): Northcentral Forests La						
Soil Map Unit Name: Gogebic silt loam, 6 to						
	•					
Are climatic / hydrologic conditions on the site typical t						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answer	rs in Remarks.)			
SUMMARY OF FINDINGS – Attach site r	nap showing sampling p	oint locations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the S	ampled Area				
	No ✓ within a	Wetland? Yes	No <u></u>			
Wetland Hydrology Present? Yes		otional Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a separate report.)  Mesic hardwood community dominated by sugar maple with basswood.						
HYDROLOGY  Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of one is required; chec	ck all that apply)	Surface Soil (				
	Water-Stained Leaves (B9)	Drainage Pat				
	Aquatic Fauna (B13)	Moss Trim Li				
	Marl Deposits (B15)		Vater Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burr	ows (C8)			
	Oxidized Rhizospheres on Livin	= ' '	sible on Aerial Imagery (C9)			
	Presence of Reduced Iron (C4)		ressed Plants (D1)			
	Recent Iron Reduction in Tilled					
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)						
	Other (Explain in Remarks)		phic Relief (D4) Test (D5)			
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutral	Test (D5)			
	_ Depth (inches):					
	Depth (inches):					
	Depth (inches):		t? Yes No✓_			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous insp	pections), if available:				
Remarks:						
No primary or secondary indicators	of wetland hydrology.					

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants.				Sampling Point: <u>wirb050_u</u>
Tree Stratum (Plot size: 30' )	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Populus grandidentata	37.5	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)
2. Acer saccharum			FACU	
3. <u>Tilia americana</u>				Total Number of Dominant Species Across All Strata: 3.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	72.5			OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0.0
1				FAC species 10.0 x 3 = 30.0
2.				FACU species <u>132.5</u> x 4 = <u>530.0</u>
3.				UPL species <u>0.0</u> x 5 = <u>0.0</u>
				Column Totals: <u>142.5</u> (A) <u>560.0</u> (B)
4				Prevalence Index = B/A = 3.9
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
<b>5</b> 1	= Total Cover		ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Mitchella repens	50.0	V	FΔCII	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Brachyelytrum erectum			FACU	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Prunus serotina</u>		N	FACU	
4. Osmunda claytoniana			FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
5. <u>Acer rubrum</u>			FAC	be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7				
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				
11.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				Woody vines – All woody vines greater than 3.28 ft in
12	70.0	Tatal Ca		height.
Mancha Vina Objetuna (Distriction 20)	<u>/U.U</u>	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
		= Total Co		Present? Yes No✓
4				

SOIL Sampling Point: wirb050\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix	0/		x Features		1 2	Taratana	Deventor
(inches)	7.5YR 4/3	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture _	Remarks
3-18							<del>_</del>	
0 10	7.011	100					<b>_</b>	
				· <del></del>				
	-			. ———				
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	,					Indicators fo	r Problematic Hydric Soils <sup>3</sup> :
Histoso	l (A1) pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(S8) ( <b>LRF</b>	RR,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> ) airie Redox (A16) ( <b>LRR K, L, R</b> )
Black H	istic (A3)	-	Thin Dark Surfa	ce (S9) ( <b>L</b>			5 cm Mud	cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		face (S7) ( <b>LRR K, L</b> ) e Below Surface (S8) ( <b>LRR K, L</b> )
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Darl	k Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	-	Redox Dark Sur Depleted Dark S		7)			ganese Masses (F12) (LRR K, L, R) t Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		1)			odic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							ent Material (F21)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B	)					ıllow Dark Surface (TF12) xplain in Remarks)
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
	ches):						Hydric Soil Pr	resent? Yes No✓
Remarks:							<u> </u>	
No redox	x features or h	ydric so	il indicators o	bserve	ed.			



wirb050\_u\_E



wirb050\_u\_W

Project/Site: Line 5 Relocation Project	City/County: Iron_		Sampling Date: 2019-09-28
Applicant/Owner: Enbridge			
Investigator(s): SAM/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46,402			
Soil Map Unit Name: Gogebic silt loam, 6 to 18 perce			
Are climatic / hydrologic conditions on the site typical for this time of	•		
Are Vegetation, Soil, or Hydrology signification			
Are Vegetation, Soil, or Hydrology naturall			
SUMMARY OF FINDINGS – Attach site map show	ing sampling point	locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sample		
Hydric Soil Present? Yes   ✓ No	within a Wetl	and? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate	report.)	scie hardwoode with	a black ach
Depressional basin crossed by an OHV trail	. Boldered by me	3SIC Haruwoous will	I DIACK ASII
(shrub-size) moving in to the feature.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	ply)	Surface Soil C	Cracks (B6)
Surface Water (A1) Water-Stai	ned Leaves (B9)	Drainage Patt	erns (B10)
High Water Table (A2) Aquatic Fa	una (B13)	Moss Trim Lin	nes (B16)
Saturation (A3) Marl Depos		Dry-Season V	Vater Table (C2)
	Sulfide Odor (C1)	Crayfish Burro	
	Rhizospheres on Living Ro		sible on Aerial Imagery (C9)
1 — · · · · · · —	of Reduced Iron (C4)		ressed Plants (D1)
	n Reduction in Tilled Soils		
Iron Deposits (B5) Thin Muck		Shallow Aquit	
	lain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral 1	Test (D5)
Field Observations:	ahaa).		
Surface Water Present?       Yes No _ ✓ Depth (incomplete of the present)         Water Table Present?       Yes No _ ✓ Depth (incomplete of the present)			
Saturation Present? Yes No V Depth (inc		Netland Hydrology Present	:? Yes ✓ No
(includes capillary fringe)	,		103 <u>7</u> 100
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspection	ns), if available:	
Remarks:			
Feature appears to be seasonally saturated	l <b>.</b>		

**VEGETATION** – Use scientific names of plants.

VEGETATION - Use scientific names of plants.				Sampling Point: wirb049e_w
Troc Stratum (Diet size: 20!	Absolute		t Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:30') 1	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
3				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species 30.0 x1 = 30.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 22.0 x 2 = 44.0
1. Fraxinus nigra	10.0_	<u>Y</u>	<u>FACW</u>	FAC species 0.0 x 3 = 0.0
2				FACU species <u>0.0</u> x 4 = <u>0.0</u>
3				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: <u>52.0</u> (A) <u>74.0</u> (B)
5.				Prevalence Index = B/A =1_4
				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
	10.0	= Total Co	over	$\checkmark$ 3 - Prevalence Index is $\le 3.0^1$
Herb Stratum (Plot size: 5' )  1. Scirpus cyperinus	25.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Onoclea sensibilis			FACW	Problematic Hydrophytic Vegetation¹ (Explain)
				representation regulation (Explain)
3. <u>Juncus effusus</u>		_N_	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Poa palustris				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	42.0	= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2		-		
3				Hydrophytic
4				Vegetation No. No.
	0.0	= Total Co	over	Present? Yes No
Remarks: (Include photo numbers here or on a separate Sphagnum present at 50% cover.				

SOIL Sampling Point: wirb049e\_w

Profile Des	cription: (Descr	ibe to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth (in all as)	Matr		Color (r		x Features		1.22	Taratrana	Demonto	
(inches)	Color (moist		Color (r	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
5-18			5VD	<b>5/9</b>	15		N./I	SICI	Prominent redev	
3-10	101K 4/	1 00	<u> </u>	5/6			IVI	SICL	Prominent redox	
							ains.  R R,  LRA 149B)	2Location Indicators 2 cm I Coast 5 cm I Dark \$ Polyva Thin E Iron-M Piedm Mesic Red P Very \$ Other	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³: Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)	
				- 07						
Type:										
Depth (in	ches):							Hydric Soi	I Present? Yes No	
Depth (inches): No										



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wirb049e\_w\_SE

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/SAM		
File #: wirb049	Date of visit(s): 09/28/2019		
Location: PLSS: 045N-001W-05	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.40207</u> Long: <u>-90.528068</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class:		
5351C Gogebic silt loam	Wetland Type(s): PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. Soils were loam above silty clay loam.	Wetland Size: 0.11	Wetland Area Impacted 0.11	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated.	Scirpus cyperinu	s vegetation is dominated by us and Onoclea sensibilis. s present at ~50% cover.	

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty   1			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N Y Visually or physically accossible to public 4 N N A esthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wild Wildlife Habitat 1 Y Wildlife Habitat 1 Y Wildlife Habitat 2 N N 3 or more strata present (~10% cover) 3 N N Wilfnin or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N Occurs in a Joint Venture priority fownship 6 N N Interspersion of habitat structure (hemi-marsh shrub/emergent, wetland/upland complex.etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y P art of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudillats present 112 N N Portodes habitat scarce in the area (urban, agricultural, etc.) 113 Fish and Aquatic Life Habitat 114 N N Vetands is consected or contiguous with perennial stream or lake 115 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic invertebrates 116 N N N Natural Heritage Inventory (NHI) listed apuatic species within aquatic invertebrates 117 N N Seasonally exposed mudillate present provides habitat for amphibians and aquatic invertebrates 118 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 119 N N Seasonally exposed mudilates present 110 N N Portodes habitat sort or amphibians and aquatic invertebrates 111 N N N Portodes habitat for amphibians and aquatic invertebrates 111 N N N Portodes habitat for amphibians and squatic invertebrates 111 N N N Portodes habitat for amphibians and squatic invertebrates 111 N N N Portodes Portodes habitat for a	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A   N   Aesthetically pleasing due to diversity of habitat types, tack of pollution or degradation	3	N	Υ	
5         N         N         List:           6         N         N         Supports or provides habitat for endangered, threatened or special concern species           7         In or adjacent to archaeological or cultural resource site           WH         Widtlife Habitat           1         Y         Wetland and contiguous habitat >10 acres           2         N         N         3 or more strata present (>10% cover)           3         N         Within or adjacent to habitat structure spoke (south) 75% (north) intact           5         N         N         Occurs in a Joint Venture priority township           6         N         N         Interpretation of the minimarsh shrub/emergent, wetland/upland complex,etc.)           7         Y         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         Y         Part of a large habitat block that supports area sensitive species           9         N         Y         Ephemeral pond with water present ≥ 45 days           10         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           11         N         N         Seasonally exposed mudflats present           12         N         Prish and Aquatic Life Habitat <t< td=""><td>4</td><td></td><td>N</td><td></td></t<>	4		N	
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In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	
Wildlife Habitat		IN	IN	
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3         N         N         Densely rooted emergent or woody vegetation           ST         Storm and Floodwater Storage           1         Y         Y         Basin wetland, constricted outlet, has through-flow or is adjacent to a stream           2         Y         Y         Water flow through wetland is NOT channelized           3         N         Y         Dense, persistent vegetation           4         N         N         Evidence of flashy hydrology           5         N         N         Point or non-point source inflow           6         N         N         Impervious surfaces cover >10% of land surface within the watershed           7         N         N         Within a watershed with <10% wetland	2	N	N	
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1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       N       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       N       Vegetated wetland associated with a lake or stream         5       N       Y       Wetlant vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7		IN	IN	
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3       N       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N <td></td> <td></td> <td></td> <td>· · · · · · · · · · · · · · · · · · ·</td>				· · · · · · · · · · · · · · · · · · ·
4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Provides substantial storage of storm and floodwater based on previous section         3       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology sou			1	
5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%				
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8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	-			
WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         Y         Y         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         N         N         Vegetated wetland associated with a lake or stream           5         N         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         N         N         Discharge to surface water           9         N         N         N Natural land cover in 100m buffer area < 50%	-			
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6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	4	N	N	
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	5	N	Υ	Dense, persistent vegetation
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8     N     N     Discharge to surface water       9     N     N     Natural land cover in 100m buffer area < 50%	-			
9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic				
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3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
<del>-                                     </del>	-			
5   N   N   Wetland is within a wellhead protection area				
	5	N	N	Wetland is within a wellhead protection area

		nments (Refer to Section 1 numbers)
HU-1: surrounding ar WH-9, 10, FA-2, 4: v		ly used for hunting onsistently inundated in this area
		at and Species Observation (including amphibians and reptiles)
	nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Observed	Y	Avians, mammals, insects, amphibians, reptiles
		atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Common
Scirpus cyperinus Onoclea sensibilis			PEM	Common
Juncus effusus			PEM	Uncommon
Poa palustris			PEM	Uncommon
Fraxinus nigra			PEM	Common
<u> </u>				
-				

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is disturbed within the wetland, resulting in low diversity. Native species expected within the plant community are present. Shrub-sized Fraxinus nigra are encroaching on the feature.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
•					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
Х	V		N 4	С	Removal of herbaceous stratum – mowing,		
Χ	X		M	C	grading, earthworms, etc.		
Х	Х	Х	М	С	Removal of tree or shrub strata – logging,		
^	^	^	IVI	C	unprescribed fire		
X	Χ		M	С	Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
					Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is impacted by historic logging and earthworm activity. There is an unpaved OHV trail running through
the middle of the wetland, extending into the buffer area.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>1</b>			
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity across the wetland, no observed invasive species
Human Use Values	Located on county land with limited accessibility to the public, surrounding area is likely used for hunting
Wildlife Habitat	Habitat present for arboreal species
Fish and Aquatic Life Habitat	Water pooling may occur seasonally and provides minimal aquatic life habitat
Shoreline Protection	N/A
Flood and Stormwater Storage	Small size, moderately vegetated
Water Quality Protection	Not directly associated with standing water, moderately vegetated
Groundwater Processes	Primarily fed by precipitation and runoff

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: Iron	<u>1                                    </u>	Sampling Date: 2019-09-28			
•						
Investigator(s): SAM/MAL	Section, Township	o, Range: <u>045N-001W-0</u>	5			
	form (hillslope, terrace, etc.): Talf Local relief (concave, cor					
Subregion (LRR or MLRA): Northcentral Forests L						
Soil Map Unit Name: Gogebic silt loam, 6 to						
Are climatic / hydrologic conditions on the site typical						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam	pled Area				
	No ✓ within a W	etland? Yes	No			
		onal Wetland Site ID:				
Remarks: (Explain alternative procedures here or i		^				
A mesic hardwood forest system d	lominated by Sugar mapi	₽.				
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)			
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil C	racks (B6)			
	_ Water-Stained Leaves (B9)	Drainage Patte	erns (B10)			
	Aquatic Fauna (B13)	Moss Trim Lin				
	Marl Deposits (B15)		/ater Table (C2)			
	_ Hydrogen Sulfide Odor (C1)	Crayfish Burro				
	_ Oxidized Rhizospheres on Living		ible on Aerial Imagery (C9)			
1 — · · · · · — —	Presence of Reduced Iron (C4)		essed Plants (D1)			
	<ul><li>Recent Iron Reduction in Tilled So</li><li>Thin Muck Surface (C7)</li></ul>					
	Other (Explain in Remarks)	Shallow Aquita Microtopograp				
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Remarks)	FAC-Neutral T	· ·			
Field Observations:		1710 110411411	001 (20)			
Surface Water Present? Yes No ✓	Depth (inches):					
	Depth (inches):					
	Depth (inches):	Wetland Hydrology Present	? Yes No <u>√</u>			
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	n well aerial photos previous inspec	tions) if available:				
Describe Necorded Data (stream gauge, monitoring	g well, aeriai priotos, previous irispec	tions), ii avaliable.				
Remarks:	a of watland by dralagy	acom rod				
No primary or secondary indicators	s of welland flydrology of	Jserveu.				

Trop Stratum (Plataire: 20'	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')			Status	Number of Dominant Species
1. Acer saccharum			FACU	That Are OBL, FACW, or FAC:3.0 (A)
2. Betula alleghaniensis				Total Number of Dominant
3. <u>Populus grandidentata</u>				Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
5				That Are OBL, FACW, or FAC: 42.857142857142854 (A/B)
6			·	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	75.0	= Total Co	ver	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species <u>5.0</u> x 2 = <u>10.0</u>
1				FACULTURE
2				FACU species
3				Column Totals: 105.0 (A) 385.0 (B)
4				
5				Prevalence Index = B/A = 3.7
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Aralia nudicaulis	10.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Fraxinus nigra		Υ	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Pyrola elliptica</u>		Y	FACU	
4. Athyrium angustum		Y	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Pteridium aquilinum</u>			FACU	,
6				Definitions of Vegetation Strata:
				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7				
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
001	30.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3		-		Hydrophytic
4				Vegetation
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate : The immediate area is dominated by m	<sup>sheet.)</sup> esic har	dwood	species	
The immediate area is definitionally in	0010 1101	411004	000.00	

Sampling Point: wirb049 u

SOIL Sampling Point: wirb049\_u

	cription: (Describe	to the dep				or confirm	the absence of	indicators.)
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>				Texture	Remarks
0-5	7.5YR 4/3	100						
	<u> </u>	100						
								_
	·							
	Concentration, D=Dep	letion, RM:	Reduced Matrix, MS	=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.
-	Indicators:					_		r Problematic Hydric Soils <sup>3</sup> :
Histoso	I (A1) pipedon (A2)		Polyvalue Below MLRA 149B)	/ Surface	(S8) ( <b>LRI</b>	RR,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> ) airie Redox (A16) ( <b>LRR K, L, R</b> )
	listic (A3)		Thin Dark Surfa	ce (S9) ( <b>L</b>	RR R, M	LRA 149B)		cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky M			, <b>L</b> )		face (S7) (LRR K, L)
	ed Layers (A5) ed Below Dark Surfac	ρ(Δ11)	<ul><li>Loamy Gleyed Matrix</li></ul>		)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
	ark Surface (A12)	C (ATT)	Redox Dark Sur					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S		7)			t Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depressi	ons (F8)				podic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)							ent Material (F21) allow Dark Surface (TF12)
	urface (S7) (LRR R, N	/ILRA 149	3)					xplain in Remarks)
<sup>3</sup> Indicators of	of hydrophytic vegetat	tion and we	etland hydrology mus	t be prese	ent, unles	s disturbed	or problematic.	
	Layer (if observed):		, ,,	<u>'</u>			<u> </u>	
Туре: <u>сс</u>	obble							
Depth (in	nches): <u>5</u>						Hydric Soil Pr	resent? Yes No/
Remarks:		. Sanahara	No solos for	. 1	-		in the at the ca	in all an Annuar al
	-					ea with	iin that live	inches. Assumed
non-nya	ric based on v	egetatio	on and landsca	ape po	SILION.			



wirb049\_u\_S



wirb049\_u\_SE

Project/Site: Line 5 Relocati	on Project	City/C	County: Iron			Sampling Date: 20	19-09-28
	•						
Investigator(s): SAM/MAL							
Landform (hillslope, terrace, etc.):							
Subregion (LRR or MLRA): Northc							
Soil Map Unit Name: Tula-Goo							
Are climatic / hydrologic conditions		•		-			
							No
Are Vegetation, Soil							INO
Are Vegetation, Soil	_, or Hydrology	naturally problema	atic? (I	if needed, ex	kplain any answer	s in Remarks.)	
SUMMARY OF FINDINGS -	<ul> <li>Attach site m</li> </ul>	nap showing sam	npling poir	nt location	ns, transects,	important featu	res, etc.
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes <u></u> ✓	No _ No	Is the Samp		Yes <u></u> ✓	No	
Wetland Hydrology Present?  Remarks: (Explain alternative pro		No	If yes, option	nal Wetland	Site ID:		
Crosses the OHV trail a	at a pinch poi	int and continue	es west ir	nto an in	tact wet fore	est community	
HYDROLOGY					Casandan Indiaat	are (minimum of two	roguirod)
Wetland Hydrology Indicators:	no io roquirod: oboo	k all that apply)			-	ors (minimum of two	<u>requirea)</u>
Primary Indicators (minimum of or					Surface Soil (		
<ul><li>✓ Surface Water (A1)</li><li>✓ High Water Table (A2)</li></ul>		Water-Stained Leave Aquatic Fauna (B13)			Drainage Patt Moss Trim Lir		
Saturation (A3)		Marl Deposits (B15)			Nioss Trim Lii Dry-Season V		
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)		Crayfish Burro		
Sediment Deposits (B2)		Oxidized Rhizosphere				sible on Aerial Imager	v (C9)
Drift Deposits (B3)		Presence of Reduced	_			ressed Plants (D1)	, ,
Algal Mat or Crust (B4)		Recent Iron Reductio			✓ Geomorphic F		
Iron Deposits (B5)		Thin Muck Surface (C	27)		Shallow Aquit	ard (D3)	
Inundation Visible on Aerial Ir	magery (B7)	Other (Explain in Ren	narks)	-	Microtopograp	ohic Relief (D4)	
Sparsely Vegetated Concave	Surface (B8)			-	✓ FAC-Neutral	Test (D5)	
Field Observations:		0					
		Depth (inches): 6					
		Depth (inches): 0		M-41111-		0 V ( N	_
Saturation Present? Ye (includes capillary fringe)	3S <b>√</b> NO	Depth (inches): 0	_	wetiand H	yarology Present	? Yes <u>√</u> No	'
Describe Recorded Data (stream	gauge, monitoring v	well, aerial photos, pre	vious inspecti	ions), if avail	able:		
Remarks:							
Feature now seasonall	y flooded due	e to beaver acti	ivity.				

**VEGETATION** – Use scientific names of plants.

<b>'EGETATION</b> – Use scientific names of plants	-			Sampling Point: wirb048e_w
Tree Stratum (Plot size:30')	Absolute	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:
2				Total Number of Dominant
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Cov	/er	OBL species <u>57.5</u> x 1 = <u>57.5</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>25.0</u> x 2 = <u>50.0</u>
1. Salix discolor	10.0_	<u>Y</u>	<u>FACW</u>	FAC species 10.0 x 3 = 30.0
2				FACU species <u>0.0</u> x 4 = <u>0.0</u>
3				UPL species $0.0   x = 0.0$ Column Totals: $92.5   (A)   137.5   (B)$
4				Column Totals. <u>92.5</u> (A) <u>137.5</u> (B)
5				Prevalence Index = B/A =1.5
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
1. Typha X glauca	37.5	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Impatiens capensis		Y	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Osmunda claytoniana		Y	FAC	
4. Symphyotrichum puniceum		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Onoclea sensibilis		N	FACW	
6. Glyceria striata			OBL	Definitions of Vegetation Strata:
7. Calamagrostis canadensis		N	OBL	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Carex crinita			OBL	
0			ODL	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				Woody vines – All woody vines greater than 3.28 ft in
12				height.
Wester Visco Observer (Districts 20)	02.3	= Total Cov	/er	
Woody Vine Stratum (Plot size:)				
1.				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
Domonico (Includo photo puesbara bara ar ar a a a a a a a a a a a a		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate Feature within the survey area is domit	nated by	non-na	tive cat	tails. Area was formerly a black ash
swamp, but has been altered by beave				· · · · · · · · · · · · · · · · · · ·
•	,			

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SOIL Sampling Point: wirb048e\_w

Profile Desc	cription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	the absence of	findicators.)
Depth (inches)	Matrix	<u></u> %	Redo:	x Features		Loc <sup>2</sup>	Toyturo	Remarks
(inches)	Color (moist)		Color (moist)	%	Type'	LOC	<u>Texture</u>	Remarks
0-18	10YR 2/2	100					<u> </u>	
		· —— -						
							_	
-		· <del></del> -		· <del></del>				
		·						
	-							
		· <del></del> -						
1							2	
Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	Location:	PL=Pore Lining, M=Matrix.  or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	v Surface	(S8) ( <b>LRF</b>	R.R.		ck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	oipedon (A2)	-	MLRA 149B)		()(	,		airie Redox (A16) (LRR K, L, R)
	stic (A3)	-	Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		face (S7) ( <b>LRR K, L</b> ) e Below Surface (S8) ( <b>LRR K, L</b> )
	d Below Dark Surface	e (A11)	Depleted Matrix		,			k Surface (S9) (LRR K, L)
	ark Surface (A12)	-	Redox Dark Su					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark S Redox Depress		7)			t Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	-	Redux Depless	10115 (1-0)				ent Material (F21)
	Matrix (S6)							allow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILRA 149B	)				Other (E	xplain in Remarks)
3Indicators o	f hydrophytic vegetat	ion and wet	land hydrology mus	t be prese	ent. unless	disturbed	or problematic.	
	Layer (if observed):				,			
Type:								
Depth (in	ches):						Hydric Soil P	resent? Yes No
Remarks:							I	
Organic	soils observed	d.						



wirb048e\_w\_E



wirb048e\_w\_SE

Project/Site: Line 5 Relocation Project	City/Co	ounty: <u>Iron</u>	Sa	ampling Date: <u>2019-09-28</u>
Applicant/Owner: Enbridge				
Investigator(s): SAM/MAL				
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests L				
Soil Map Unit Name: Tula-Gogebic compl				
Are climatic / hydrologic conditions on the site typica	•	•		
Are Vegetation, Soil, or Hydrology _				
Are Vegetation, Soil, or Hydrology _				
SUMMARY OF FINDINGS – Attach site	map showing sam	pling point locations	s, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes	110	Is the Sampled Area		
	/ INO	within a Wetland?	Yes <u>√</u>	No
Wetland Hydrology Present? Yes		If yes, optional Wetland Sit	te ID:	
Remarks: (Explain alternative procedures here or Wet forest community, unaffected		1		
Wet forest community, unanected	by beaver activity	y <b>.</b>		
HYDROLOGY				
Wetland Hydrology Indicators:		<u>Se</u>	condary Indicators	s (minimum of two required)
Primary Indicators (minimum of one is required; ch			_ Surface Soil Cra	
	Water-Stained Leaves		_ Drainage Patteri	
	Aquatic Fauna (B13)	_	_ Moss Trim Lines	
	Marl Deposits (B15)		_ Dry-Season Wat	
	<ul><li>Hydrogen Sulfide Odo</li><li>Oxidized Rhizosphere</li></ul>		_	le on Aerial Imagery (C9)
	Presence of Reduced		Stunted or Stres	=
1 <del>-</del> · · · · · · -	Recent Iron Reduction		_ Geomorphic Pos	
	Thin Muck Surface (C		_ Shallow Aquitard	
	Other (Explain in Rem		_ Microtopographi	
Sparsely Vegetated Concave Surface (B8)			_ FAC-Neutral Tes	st (D5)
Field Observations:				
Surface Water Present? Yes No	Depth (inches):			
Water Table Present? Yes No	/ Depth (inches):			
	Depth (inches): 0	Wetland Hyd	rology Present?	Yes ✓ No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, prev	ious inspections), if availab	ole:	
, , ,		, ,,		
Remarks: Discharge hydrology and soils still	saturated at this	time of year		
Diconarge riyarelegy and come can	odiaratod at timo	timo or your.		

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants.				Sampling Point: wirb048f_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:  Number of Dominant Species
1. <u>Fraxinus nigra</u>	50.0	Y	<u>FACW</u>	That Are OBL, FACW, or FAC: 3.0 (A)
2. <u>Ulmus americana</u>	20.0	Y	<u>FACW</u>	Total Number of Dominant
3				Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 75.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	70.0	= Total Cov	/er	OBL species <u>15.0</u> x 1 = <u>15.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>135.0</u> x 2 = <u>270.0</u>
1. <u>Acer saccharum</u>	10.0	Y	<b>FACU</b>	FAC species x 3 =0.0
2				FACU species 10.0 x 4 = 40.0
3				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: <u>160.0</u> (A) <u>325.0</u> (B)
5				Prevalence Index = B/A =
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.01
1. Carex bromoides	50.0	Υ	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Onoclea sensibilis		N	FACW	Problematic Hydrophytic Vegetation¹ (Explain)
3. Chelone glabra		N	OBL	
4. Ribes triste		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Carex crinita		N	OBL	
6. Cardamine pensylvanica			FACW	Definitions of Vegetation Strata:
7.				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
201	00.0	= Total Cov	er/er	
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes/ No
Demonstra (Include mk et accest and h		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s Black ash swamp with a ground layer d	<sub>sneet.)</sub> Iominate	ed by Ca	arex bro	moides and including Pennsylvania
bittercress, swamp currant, sensitive fe				

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SOIL Sampling Point: wirb048f\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (m		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches)	10YR 2/2	100	Color (II	10151)	-70	туре	LOC	MP	Remarks
5-12	10YR 2/1	100						MP	
			7.5YR	5/8	15	С	M		Prominent redox
Type: C=C Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Sandy I Stripped	concentration, D=Dep	e (A11)	Polyva MLF Thin D Loamy Loamy Peplete Redox Deplete Redox	datrix, MS RA 149B) ark Surfa Mucky M Gleyed I ed Matrix Dark Sul ed Dark S	S=Masked v Surface ce (S9) (L dineral (F1	(S8) (LRI .RR R, MI	ains.	Indicators  2 cm l Coast 5 cm l Dark S Polyva Thin D Iron-M Piedm Mesic Red P Very S	Prominent redox  The Pore Lining, M=Matrix.  The For Problematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  The Pool of the Pool of the Peat (S8) (LRR K, L)  The Pool of the Peat (S9) (LRR K, L)  The Pool of the Peat (S9) (LRR K, L)  The Pool of the Peat (S9) (MLRA 149B)  The Pool of the Peat (S9) (MLRA 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)  The Pool of the Peat (S9) (MLRA 144A, 145, 149B)
<sup>3</sup> Indicators o	of hydrophytic vegetat	ion and we	etland hydro	logy mus	t be prese	ent, unles:	s disturbed o	or problemati	C.
	Layer (if observed):				-			-	
Type:	achoo).							Hydric Soil	I Present? Yes No
Remarks:	ches):		<u></u>					Tiyano con	111000HL 100 NO
Organic	soils over dar	c clay lo	oam.						



wirb048f\_w\_N



wirb048f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name:	Evaluator(s):				
Line 5 Relocation Project	MAL/SAM				
File #:	Date of visit(s):				
wirb048	09/28/2019				
Location:	Ecological Landsca	pe:			
PLSS: <u>045N-001W-05, 045N-001W-06</u>	North Central Forest				
	North Ochtrai i orest				
Lat: <u>46.401423</u> Long: <u>-90.528107</u>	Watershed: LS13, Tyler Forks				
County: Iron Town/City/Village: Anderson town					
SITE DESCRIPTION					
Soils:	WWI Class:				
Mapped Type(s):	Т3К				
5353B Tula-Gogebic complex, 5351C Gogebic silt loam	Wetland Type(s):				
F'.1117.20.1	PEM - Shallow marsh, PFO - Hardwood Swamp				
Field Verified:					
Series not verified. Within the emergent component, soils	Wetland Size:	Wetland Area Impacted			
were peat throughout the profile. Within the forested	0.31	0.31			
component, soils were mucky peat above clay loam.	Vegetation:				
I budaalaan	Plant Community Description(s):				
Hydrology:	The emergent component is densely vegetated and				
The emergent component is now seasonally flooded due	dominated by Typha X glauca. The canopy of the				
to beaver activity. The forested component is seasonally	forested component is dominated by Fraxinus nigra				
saturated with discharge hydrology and is unaffected by beaver activity.	with a ground layer dominated by Carex bromoides.				

SITE MAP		

### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Use Values: recreation, culture, education, science, natural scenic beauty   1   N   V   Used for recreation (nutning, biring, iking, etc.). List: Hunting   2   N   N   Used for educational or scientific purposes   N   V   Visually or physically occessible to public   N   Y   Visually or physically occessible to public   N   Y   Visually or physically occessible to public   N   Y   Visually or physically occessible to public   N   N   Visually or physically occessible to public   N   N   Visually or physically occessible to public   N   N   Visually or physically occessible to diversity of habitat types, lack of pollution or degradation   N   Visually or physically occessible to diversity of habitat types, lack of pollution or degradation   N   N   N   Supports or provides habitat for endangered, threatened or special concern species   In or adjacent to RED FLAG areas   N   N   Wetland and contiguous habitat > 10 acres   N   V   Wetland and contiguous habitat > 10 acres   N   V   V   Wetland and contiguous habitat > 10 acres   N   V   V   V   V   V   V   V   V   V				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N Y V Susally or physically accessible to public 4 N Y A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Suspens or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Widlife Habitat 1 Y Westand and contiguous habitat >10 acres 2 Y Y Sor more strata present (> 10% cover) 3 N N Within or adjacent to habitat cornidor or established wildlife habitat area 4 N N 100 m buffer – natural land cover \$50% (south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present > 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat storic armophibians and aquatic invertebrates 113 N N Wetland is connected or contiguous with perennial stream or lake 114 N N Seasonally exposed mudflats present 115 N N V Petand is connected or contiguous with perennial stream or lake 116 N N Residency or supposed mudflats present 117 N N Seasonally exposed mudflats present 118 N N V Standing water provides habitat for amphibians and aquatic invertebrates 119 N N Seasonally exposed mudflats present 110 N N Residency or supposed mudflats present 111 N N Seasonally exposed mudflats present 112 N N N Residency or supposed mudflats present 113 N N N Residency or supposed mudflats present 114 N N Seasonally exposed mudflats present 115 N N Residency or supposed mudflats present 116 N N Residency or supposed mudflats present 117 N N Residency or supposed mudflats present 118 N N Residency or supposed mudflats present 119 N N Residency or	HU	Y/N	Potential	
3	1	N	Υ	
N	2	Ν	N	Used for educational or scientific purposes
Solution	3	Ν	Υ	Visually or physically accessible to public
N N   List:	4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N   List:	_			
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	
We will will will will will will will wil	$\vdash$	- 1	- 10	
1 Y Y Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥60%(south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Y J Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 8 N Y Part of a large habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflast present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows if no, not applicable 3 N N Densely rotote demergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 N N Potential to not > 10 stream; lake, pond or open water area (≥1 acre) - if no, not applicable water levels or high flows if no, not applicable 5 N N Point or non-point source inflow 6 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event 7 N N N Vegetated wetland associated with a lake or stream 8 N N Potential to hold > 10% of the runoff from contributing area				
2	h +			
3			1	
4	$\overline{}$			
5 N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 P Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Densely rooted emergent or woody vegetation 3 N N Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Wat	$\overline{}$			
Interspersion of habital structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.)   The complex of	-			
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	$\overline{}$			latered a solutive fitting the priority township
Y	Ь	Y	Y	
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5 N Wetland is within a wellhead protection area	4	Υ	Υ	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-1: the wetland buffer area is likely used for hunting WH-6: composed of an emergent and forested component GW-4: soils are organic WH-9,10, FA-2: standing water is present within the emergent component with saturated soils, vegetation is likely inundated seasonally within this area Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Amphibians, mammals, reptiles, avians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%✓	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Ulmus americana			PFO	Common
Acer saccharum			PFO	Common
Carex bromoides			PFO	Abundant
Onoclea sensibilis			PFO, PEM	Common
Chelone glabra			PFO	Uncommon
Ribes triste			PFO	Uncommon
Carex crinita			PFO, PEM	Uncommon
Cardamine pensylvanica			PFO	Uncommon
Salix discolor			PEM	Common
Typha X glauca			PEM	Common
Impatiens capensis			PEM	Common
Osmunda claytoniana			PEM	Common
Symphyotrichum puniceum			PEM	Uncommon
Glyceria striata			PEM	Uncommon
Calamagrostis canadensis			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

There is moderate diversity across the emergent and forested components of the wetland with notable invasive species cover within the altered emergent area.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
Х	V		М	С	Removal of herbaceous stratum – mowing,
Χ	X		IVI	C	grading, earthworms, etc.
Х	Х	Х	М	С	Removal of tree or shrub strata – logging,
^	^	^	IVI	C	unprescribed fire
Χ	X		М	С	Human trails – unpaved
					Human trails – paved
	Χ		М	С	Removal of large woody debris
Χ	Χ		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland has been significantly altered by beaver activity, resulting in seasonal inundation within the emergent
component. The wetland and surrounding area is impacted by historic logging and earthworm activity, and an OHV
trail crosses through the wetland

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>1</b>			
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE					
Floristic Integrity	Moderately diverse vegetation, mostly native species with notable invasive species coverage within the emergent component					
Human Use Values	Located on county land along a logging road, limited accessibility to the public, potential hunting use					
Wildlife Habitat	Habitat present for aquatic and arboreal species					
Fish and Aquatic Life Habitat	Saturated soils and consistent standing water are present					
Shoreline Protection	N/A					
Flood and Stormwater Storage	Receives and holds considerable quantities of runoff from the surrounding area					
Water Quality Protection	Seasonally flooded and consistently holds water due to altered hydrology					
Groundwater Processes	Forested component primarily fed by discharge hydrology, organic soils					

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: <u>Iro</u>	n	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge			
Investigator(s): SAM/MAL	Section, Townshi	p, Range: <u>045N-001W-0</u>	06
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests L			
Soil Map Unit Name: Gogebic silt loam, 6 to			
Are climatic / hydrologic conditions on the site typica			
Are Vegetation, or Hydrology, or Hydrology,			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No Is the San	npled Area	
		Vetland? Yes	No <u> √</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or		the canony	
Mesic hardwood system with rece	nt logging enorts to thin	пе сапору.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil	Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pat	
	Aquatic Fauna (B13)	Moss Trim Li	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Buri	
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
1 <del>-</del> · · · · · · -	Presence of Reduced Iron (C4)		tressed Plants (D1)
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>	oils (C6) Geomorphic Shallow Aqui	
	Other (Explain in Remarks)		uphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Kemarks)	FAC-Neutral	` '
Field Observations:		1710 Neutral	1001 (20)
	Depth (inches):		
	/ Depth (inches):		
	/_ Depth (inches):	Wetland Hydrology Presen	t? Yes No✓_
(includes capillary fringe)	a well periol photos provious income	otiona) if available:	
Describe Recorded Data (stream gauge, monitorin	g weil, aeriai photos, previous inspec	mons), ir available:	
Remarks:			
No primary or secondary indicator	s of wetland hydrology.		

# **VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1. Acer saccharum			FACU	Number of Dominant Species
2. Tilia americana				That Are OBL, FACW, or FAC:(A)
				Total Number of Dominant Species Across All Strata: 12.0 (B)
3				( /
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 58.333333333333333333333333333333333333
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
4-1	50.0	= Total Co	ver	OBL species 0.0 x1 = 0.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 10.0 x 2 = 20.0 FAC species 25.0 x 3 = 75.0
1. <u>Ostrya virginiana</u>				FACU species <u>25.0</u> x 4 = <u>75.0</u> FACU species <u>84.0</u> x 4 = <u>336.0</u>
2				UPL species x 5 =0.0
3				Column Totals: 119.0 (A) 431.0 (B)
4				
5			·	Prevalence Index = B/A =3.6
6			·	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20.0	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				4 - Morphological Adaptations¹ (Provide supporting
1. <u>Dirca palustris</u>	5.0	Y	FAC	data in Remarks or on a separate sheet)
2. <u>Fraxinus nigra</u>	5.0	Y	<u>FACW</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Abies balsamea</u>	5.0	Y	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Carex pedunculata	5.0	Y	FAC	be present, unless disturbed or problematic.
5. <u>Symphyotrichum lateriflorum</u>	5.0	Y	<u>FAC</u>	Definitions of Vegetation Strata:
6. <u>Mitchella repens</u>	5.0	Y	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Gymnocarpium dryopteris	5.0	Y	<u>FACU</u>	at breast height (DBH), regardless of height.
8. <u>Carex intumescens</u>	5.0	Y	<u>FACW</u>	Sapling/shrub – Woody plants less than 3 in. DBH
9. Athyrium angustum	5.0	Y	FAC	and greater than or equal to 3.28 ft (1 m) tall.
10. <i>Maianthemum canadense</i>	2.0	N	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, regardless
11. Solidago flexicaulis	2.0	N	<u>FACU</u>	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	49.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3.				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			
Immediate area with a canopy of sugar	maple a	and bas	sswood.	

Sampling Point: wirb048 u

SOIL Sampling Point: wirb048\_u

Profile Desc	ription: (D	escribe	to the dep	th needed to docur	nent the i	indicator	or confirm	the absence of in	dicators.)
Depth	-	Matrix			x Feature		. 2	<b>.</b>	5
(inches)	Color (r		<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-6	5YR	4/4	100					SL	
6-9	<u>10YR</u>	2/1	100		-				
						·			
					. —	· ——			
		n, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.
Hydric Soil				Dalumalus Dalas	C	(CO) (LDI	. D		Problematic Hydric Soils <sup>3</sup> :
Histosol	(AT) pipedon (A2	)		Polyvalue Belov		(56) (LKI	κκ,		(A10) ( <b>LRR K, L, MLRA 149B</b> ) e Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi		,		Thin Dark Surfa		RR R, MI	RA 149B)		Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A			Loamy Mucky N			, <b>L</b> )		e (S7) (LRR K, L)
	d Layers (At d Below Dar		· (A11)	Loamy Gleyed   Depleted Matrix		2)			elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)
-	ark Surface		5 (A11)	Redox Dark Su					nese Masses (F12) (LRR K, L, R)
	lucky Miner			Depleted Dark				_	loodplain Soils (F19) (MLRA 149B)
	Bleyed Matri	x (S4)		Redox Depress	ions (F8)				ic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) I Matrix (S6)								Material (F21) w Dark Surface (TF12)
	rface (S7) (I		ILRA 149E	3)				·	ain in Remarks)
									,
				tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
Restrictive		servea):							
Type: <u>cc</u>								Hydric Soil Pres	ent? Yes No <u>√</u>
Depth (inc	ches): 9							Tryunc 3011 Tes	ent: 163 NO
	feature	s or h	vdric so	oil indicators o	bserve	ed Una	able to	dig past 9 inc	hes. Area with shallow
bedrock.	roatare	0 0 1	y arro o		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ju. 0110		ang paor o mo	noo. 7 noo man on anon
, DOG: 00:11									



wirb048\_u\_S



wirb048\_u\_W

roject/Site: Line 5 Relocation Project		t	City/County: Iron				Sampling Date:	2019-09-24			
Applicant/Owner: Enbridge											
_			Section, Township, Range: 045N-001W-0								
Landform (hillslope, terrace, etc.): Depression											
Subregion (LRR or MLRA): Northcentral Forests Lat:											
Soil Map Unit Name: Chab											
Are climatic / hydrologic condit			•	•	•						
Are Vegetation								/ No			
_								<b>▼</b> NO			
Are Vegetation, Soil	, or Hydrology		naturally problema	atic? (	(If needed, e	xplain any answer	s in Remarks.)				
SUMMARY OF FINDINGS-Attach site map showing sampling point locations, transects, important features, etc.											
Hydrophytic Vegetation Pres Hydric Soil Present?	Yes	✓	No		etland?	Yes <u>√</u>					
Wetland Hydrology Present?  Remarks: (Explain alternative)			_ No	If yes, optio	nal Wetland	Site ID:					
disturbance in the a	rea. There is	lots	of debris pres	sent.							
HYDROLOGY											
Wetland Hydrology Indicat						Secondary Indicators (minimum of two required)					
Primary Indicators (minimum	of one is required; of										
			Water-Stained Leave Aquatic Fauna (B13)	Drainage Patterns (B10) Moss Trim Lines (B16)							
			Marl Deposits (B15)	Moss Tilli Lilies (BTo) Dry-Season Water Table (C2)							
			Hydrogen Sulfide Odor (C1)			Crayfish Burrows (C8)					
			Oxidized Rhizospheres on Living Roots (C3								
			Presence of Reduced Iron (C4)			Stunted or Stressed Plants (D1)					
			Recent Iron Reduction in Tilled Soils (C6)			Geomorphic Position (D2)					
Iron Deposits (B5) T			Thin Muck Surface (C7)			Shallow Aquitard (D3)					
Inundation Visible on Ae	rial Imagery (B7)		Other (Explain in Remarks)			Microtopographic Relief (D4)					
Sparsely Vegetated Con	icave Surface (B8)					✓ FAC-Neutral <sup>3</sup>	Test (D5)				
Field Observations:											
Surface Water Present?			Depth (inches):								
Water Table Present?			Depth (inches):								
Saturation Present? (includes capillary fringe)	Yes No _	✓	Depth (inches):		Wetland H	lydrology Present	t? Yes <u>√</u>	_ No			
Describe Recorded Data (str	eam gauge, monitor	ring w	ell, aerial photos, pre	vious inspect	tions), if avai	ilable:					
Remarks:											
The wetland hydrology	ogy regime is	sat	urated.								

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute		Indicator	Dominance Test worksheet:			
1. Populus tremuloides		Species?	FAC	Number of Dominant Species			
2. <u>Tilia americana</u>				That Are OBL, FACW, or FAC:3.0 (A)			
				Total Number of Dominant Species Across All Strata: 3.0 (B)			
3				、,			
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)			
5				111at Ale ODE, 1 AOW, 01 1 AO. (AD)			
6				Prevalence Index worksheet:			
7				Total % Cover of: Multiply by:			
	55.0	= Total Co	ver	OBL species 91.0 x 1 = 91.0			
Sapling/Shrub Stratum (Plot size: 15')				FACW species 11.0 x 2 = 22.0			
1. Fraxinus nigra	10.0	<u>Y</u>	FACW	FAC species <u>56.0</u> x 3 = <u>168.0</u> FACU species <u>5.0</u> x 4 = <u>20.0</u>			
2				UPL species 0.0 x5 = 0.0			
3				Column Totals: 163.0 (A) 301.0 (B)			
4							
5				Prevalence Index = B/A =1.8			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
				✓ 2 - Dominance Test is >50%			
Herb Stratum (Plot size:)				✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>			
<u>Calamagrostis canadensis</u>	90.0	<u>Y</u>	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
2. Rubus idaeus	5.0	N	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
3. Symphyotrichum lateriflorum	1.0	N	FAC	The street entry of booking and so allowed and booking an over-			
4. Carex crinita	1.0	N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
5. <u>Solidago gigantea</u>		N	<u>FACW</u>	Definitions of Vegetation Strata:			
6				_			
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
8				Sapling/shrub – Woody plants less than 3 in. DBH			
9				and greater than or equal to 3.28 ft (1 m) tall.			
10				Herb – All herbaceous (non-woody) plants, regardless			
11				of size, and woody plants less than 3.28 ft tall.			
12.			-	Woody vines – All woody vines greater than 3.28 ft in			
	98.0 = Total Cover		ver	height.			
Woody Vine Stratum (Plot size: 30')							
1							
2							
3				Hydrophytic Vegetation			
4				Present? Yes No			
Remarks: (Include photo numbers here or on a separate		= Total Co	ver				
The area is dominated by quaking aspe	en and (	Canada	bluejoir	nt.			

Sampling Point: wird026f\_w

SOIL Sampling Point: wird026f\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features		. 2	<b>-</b> .	5	
(inches)	Color (moist)	<u>%</u>	Color (n	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
0-3	10YR 4/2	100						SI		
3-18	<u>10YR 4/2</u>	95	<u>10YR</u>	5/6	5	C	M/PL	SI	Prominent redox	
			-							
							· ·			
	-				·		· <del></del>			
<sup>1</sup> Type: C=C	concentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil								Indicators	s for Problematic Hydric Soils <sup>3</sup> :	
Histoso				lue Belov RA 149B)	w Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)			- /		RR R, M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
Hydroge	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	1) (LRR <b>F</b>		Dark	Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surface	o (A11)		Gleyed I ed Matrix	Matrix (F2	)			alue Below Surface (S8) (LRR K, L)	
	ark Surface (A12)	5 (ATT)			rface (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy N	Mucky Mineral (S1)		Deplet	ed Dark S	Surface (F	7)		Piedm	nont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	d Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	urface (S7) (LRR R, N	ILRA 149	3)					Other (Explain in Remarks)		
<sup>3</sup> Indicators of	of hydrophytic vegetat	ion and w	atland hydro	loav mus	t ha nrase	ant unlas	e dieturhed	or problemati		
	Layer (if observed):		Stiaria riyaro	logy mas	n be prese	ont, unico	3 distarbed	or problemati		
Type:										
Depth (in	ches):							Hydric Soi	I Present? Yes/ No	
Remarks:										
Depleted	d silt with redo	x belov	/ 3 inche	es.						



wird026f\_w\_NW



wird026f\_w\_SE

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): AGG/MDL		
File #: wird026	Date of visit(s): 09/24/2019		
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.407507</u> Long: <u>-90.532601</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
5543B Chabeneau-Annalake complex Field Verified:	Wetland Type(s): PFO - hardwood swamp		
Series not verified. Soils were silty throughout the profile.	Wetland Size: 0.48	Wetland Area Impacted 0.48	
Hydrology: The hydrologic regime is saturated, and the feature displays recharge hydrology.	a tree layer of Po	hardwood swamp dominated by pulus tremuloides, a shrub layer and an herbaceous layer of	

 SITE MAP	

#### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 Y Y V Susally or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N Lot or adjacent to RED FLAG areas 6 N N Suspens or provides habitat for endangered, threatened or special concern species 7 N N User or achaeological or cultural resource site Wildlife Habitat 1 Y Y Weltand and contiguous habitat >10 acres 2 Y Y 3 or more strata present (-1 0% cover) 3 N N Wilthin or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover >50%(eauth) 75% (north) intact 5 N N Occurs in a Joint Venture priority fownship 6 N N Interspersion of habitat orsulty fownship 6 N N Interspersion of habitat structure (hemi-marsh.shrub/emergent, weltland/upland complex.etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P ard of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat for for amphibians and aquatic invertebrates 13 N N N Mutral Heritage Inventory (NHI) listed aquatic species within aquatic system 14 N N Vegetation is inundated in spring 15 SP Shortline Protection 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed apuatic species within aquatic system 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed apuatic species within aquatic system 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Potential for account of a stream, lake, pond or	HU	Y/N	Potential	
3	1	N	N	
A	2	Ν	N	Used for educational or scientific purposes
5	3	Υ	Υ	Visually or physically accessible to public
Section   Sect	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
Section   Sect	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
Wildlife Habitat	7			
1 Y Y Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township. 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present > 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 2 N N Densely rotoel emergent or woody vegetation 3 N N Densely rotoel emergent or woody vegetation 5 N N Potential for errosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows if no, not applicable 3 N N Densely rotoel emergent or woody vegetation 5 N N Potential to non-point source inflow 4 N N Potential to non-point source inflow 5 N N Point or non-point source inflow 6 N N Point or non-point source inflow 7 N N Point or non-point source inflow 8 N N Point or non-point source inflow 9 N N N Residence of Rashy hydrology 5 N N Point or non-point source inflow 1 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 1 N N Potential to hold >10% of the runoff from contributing area from a 2-y	WH			1 7
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9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	_			
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1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		IN	IN	
2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		<b>.</b>	A 1	
3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
	_		-	
1 5   N   N   Wetland is within a wellhead protection area	-			
O I IN I IN I WELIATIO IS WILLIIT A WELLIEAU PLOTECTION AIEA	5	N	N	Wetland is within a wellhead protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	it: direct ob nter, etc.	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
	Y	Mammals Birds
	1	Diido
Eio	h and Agua	stic Life Hebitat and Species Observations
ris Lis	and Aqua	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located on county land WH-4: surrounded by undeveloped areas ST-1: the wetland is located in a depression

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Traine Community intogrety (Circle)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Abundant
Tilia americana			PFO	Uncommon
Fraxinus nigra			PFO	Common
Calamagrostis canadensis			PFO	Abundant
Rubus idaeus			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Rare
Carex crinita			PFO	Rare
Solidago gigantea			PFO	Rare

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

There is a low diversity of plants present in the wetland; Populus tremuloides and Calamagrostis canadensis dominate the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		М	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
V	V	V		0	Removal of tree or shrub strata – logging,
X	X	X	Н	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is located on county land and has been recently logged.						

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

#### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity of species. Not all strata present
Human Use Values	Located on county land. No recreational value
Wildlife Habitat	Missing strata. No wildlife observed
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow basin with dense vegetation
Water Quality Protection	Closed depression that allows a limited amount of water to infiltrate
Groundwater Processes	Recharge feature

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>lrc</u>	n	Sampling Date: 2019-09-24				
•							
Investigator(s): AGG/MDL	Section, Township, Range: 045N-001W-06						
Landform (hillslope, terrace, etc.): Rise							
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.407564	Long: -90.532937	Datum: WGS84				
Soil Map Unit Name: Chabeneau-Annalal							
Are climatic / hydrologic conditions on the site typic	•	•					
Are Vegetation ✓, Soil, or Hydrology _							
Are Vegetation, Soil, or Hydrology _							
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	, important features, etc.				
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sa	mpled Area					
		Vetland? Yes	No <u></u>				
		ional Wetland Site ID:					
Remarks: (Explain alternative procedures here or	in a separate report.)	oted by young growth	ironwood troop				
The sample plot is located in rece	nity logged forest domin	ated by young growth	i iioiiwood tiees.				
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)				
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil	Cracks (B6)				
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pat	tterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Li	nes (B16)				
	Marl Deposits (B15)	Dry-Season \	Water Table (C2)				
	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
	Oxidized Rhizospheres on Living						
	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
	Recent Iron Reduction in Tilled S						
	Thin Muck Surface (C7)	Shallow Aqui					
	Other (Explain in Remarks)		aphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)				
	✓ Depth (inches):						
	✓ Depth (inches):						
	Depth (inches):		it? Yes No √				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:					
Remarks:							
No wetland hydrology indicators v	vere observed.						

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?		Dominance Test worksheet:
1. Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC: 2,0 (A)
2				That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant Species Across All Strata: 4.0 (B)
4				(,,
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)
6				Prevalence Index worksheet:
		= Total Cov		
Sapling/Shrub Stratum (Plot size: 15')	20.0	= 10tal C01	, CI	FACW species
1. Ostrya virginiana	75 O	Υ	FACII	FAC species 45.0 x 3 = 135.0
2				FACU species <u>125.0</u> x 4 = <u>500.0</u>
3				UPL species0.0 x 5 =0.0
4				Column Totals: <u>170.0</u> (A) <u>635.0</u> (B)
5				Prevalence Index = B/A =3.7
6				Hydrophytic Vegetation Indicators:
7			-	1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov	/or	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')	70.0	- 10tai 00t	.01	3 - Prevalence Index is ≤3.0¹
1. Mitchella repens	40.0	<u>Y</u>	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex pedunculata	25.0	Y	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Maianthemum canadense</u>	5.0	N	<u>FACU</u>	1
4. Pyrola elliptica		N	<b>FACU</b>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	75.0	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
	0.0	= Total Cov	/er	Tresent: Tes No
Remarks: (Include photo numbers here or on a separate see The sample plot is located in recently lo		rest do	minated	l by young ironwoods.

Sampling Point: wird026 u

SOIL Sampling Point: wird026\_u

Color (most)   Scotor (most)	Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	f indicators.)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosol (A1)  Histosol (A1)  Histosol (A2)  Histosol (A3)  Thin Dark Surface (S9) (LRR R, MLRA 149B)  Black Histic (A3)  Thin Dark Surface (S9) (LRR R, MLRA 149B)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Gleyed Matrix (F2)  Sandy Mucky Mineral (F1)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S4)  Dark Surface (S7) (LRR R, LR, R)  Peledox Dark Surface (F7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Mesic Spodic (TA6) (MLRA 149B)  Mesic Spodic (TA6) (MLRA 144A)  Medicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: _parent material  Depth (inches): 1  Remarks:							12	Testone	Demonto
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Ptyric Soil Indicators:  Histosol (A1)  Histosol (A2)  Histosol (A3)  Thin Dark Surface (S9) (LRR R, MLRA 149B)  Stratified Layers (A5)  Depleted Below Dark Surface (S9)  Depleted Matrix (F3)  Thin Dark Surface (A11)  Depleted Matrix (F3)  Sandy Gleyed Matrix (S1)  Sandy Gleyed Matrix (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Dark Surface (S7) (LRR K, L)  Sandy Redox (S6)  Dark Surface (S7) (LRR K, L)  ThinkDark Surface (S7)  Sandy Mucky Mineral (S1)  Sandy Redox (S6)  Dark Surface (S7) (LRR K, L)  ThinkDark Surface (S7)  Sandy Mucky Mineral (S1)  Depleted Dark Surface (F7)  Sandy Redox (S5)  Sandy Redox (S6)  Dark Surface (S7) (LRR K, L)  ThinkDark Surface (T7)  Pelydnalue Below Surface (S9) (LRR K, L)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Redox Depressions (F8)  Mesic Spoil (T18) (MLRA 144A, 145, 149B)  Red Parent Material (F21)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Pleding Troblematic  Public Soil Present? Yes No ✓  No ✓  Remarks:				Color (moist)	%	<u>rype</u>	LOC		Remarks
Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Polyvalue Below Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stratified Layers (A5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Sandy Redox (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L, R) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S7) (LRR R, MLRA 149B)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed): Type: parent material Depth (inches): 1  Remarks:	0-1	10YR 3/1	100		·			SI	
Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Poepleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stratified Layers (A5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  All Matrix (S6) Dark Surface (S8) (LRR K, L, R) Dark Surface (S9) (LRR K, L, R) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S6) (LRR K, L) Dark Surface (S9) (LRR K, L									
Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Poepleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stratified Layers (A5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  All Matrix (S6) Dark Surface (S8) (LRR K, L, R) Dark Surface (S9) (LRR K, L, R) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S6) (LRR K, L) Dark Surface (S9) (LRR K, L									
Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Poepleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stratified Layers (A5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  All Matrix (S6) Dark Surface (S8) (LRR K, L, R) Dark Surface (S9) (LRR K, L, R) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S6) (LRR K, L) Dark Surface (S9) (LRR K, L			· <del></del>						
Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Poepleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stratified Layers (A5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  All Matrix (S6) Dark Surface (S8) (LRR K, L, R) Dark Surface (S9) (LRR K, L, R) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S6) (LRR K, L) Dark Surface (S9) (LRR K, L			· —— -						_
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:									
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:									
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:									
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:									
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:									
Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Thin Dark Surface (S7)  Black Histic (A3)  Thin Dark Surface (F8)  Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7)  (LRR K, L, R)  Polyvalue Below Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L, R)  Hedrox Dark Surface (F8)  Mesic Spodic (TA6) (MLRA 149A, 145, 149B)  Alexandra (S7)  Piedmont Floodplain Soils (F19) (MLRA 149B)  Alexandra (S7)  Wery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Alexandra (S7)  Permarks:			· —— ·						
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Stratified Layers (A5) Black Juriance (A12) Ceast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Depleted Below Dark Surface (A11) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR K, L) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S7) (LRR K, L) Jarriance (S9) (LRR K, L) Jarriance (S9									
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Stratified Layers (A5) Black Juriance (A12) Ceast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Depleted Below Dark Surface (A11) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR K, L) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S7) (LRR K, L) Jarriance (S9) (LRR K, L) Jarriance (S9									
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Stratified Layers (A5) Black Juriance (A12) Ceast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Depleted Below Dark Surface (A11) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR K, L) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S7) (LRR K, L) Jarriance (S9) (LRR K, L) Jarriance (S9			· <del></del>						
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Stratified Layers (A5) Black Juriance (A12) Ceast Prairie Redox (A16) (LRR K, L, R) Thin Dark Surface (S9) (LRR R, MLRA 149B) Depleted Below Dark Surface (A11) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR R, MLRA 149B)  Jarriance (S7) (LRR K, L) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S8) (LRR K, L, R) Jarriance (S7) (LRR K, L, R) Jarriance (S7) (LRR K, L) Jarriance (S9) (LRR K, L) Jarriance (S9	1Type: C-C	oncentration D-Den	letion PM-	Peduced Matrix MS	S-Masked	Sand Gr	nine	<sup>2</sup> Location:	PL -Pore Lining M-Matrix
Histosol (A1)			ietion, rtivi–	rteduced Matrix, Mc	<u>J-IVIASKEC</u>	i Sariu Ora	aii i3.		
Histic Epipedon (A2)	-		<u>-</u>	Polyvalue Belov	w Surface	(S8) ( <b>LRF</b>	RR,	2 cm Mu	uck (A10) ( <b>LRR K, L, MLRA 149B</b> )
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Sandy Redox (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Applicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Polyvalue Below Surface (S7) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L)				MLRA 149B)	)				
Stratified Layers (A5)		, ,	-						
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed): Type: parent material Depth (inches): 1 Hydric Soil Present? Yes No ✓			-				, L)		
Thick Dark Surface (A12)			e (A11)			,			
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):	-		. , ,						
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: parent material  Depth (inches): 1  Remarks:	-		-			7)			
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: parent material  Depth (inches): 1 Hydric Soil Present? Yes No ✓  Remarks:	-		-	Redox Depress	ions (F8)				
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: parent material  Depth (inches): 1 Hydric Soil Present? Yes No ✓  Remarks:	-								
³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: parent material  Depth (inches): 1 Hydric Soil Present? Yes No ✓  Remarks:			ILRA 149B	)					
Restrictive Layer (if observed):  Type: parent material  Depth (inches): 1  Remarks:  Hydric Soil Present? Yes No _ ✓									
Type: parent material  Depth (inches): 1  Remarks:  Hydric Soil Present? Yes No _ ✓				land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Depth (inches): 1 Hydric Soil Present? Yes No ✓  Remarks:		, ,							
Remarks:								Undria Cail F	Overent? Ver No /
		ches): <u>1</u>		,				nyuric 30ii F	riesent? TesNOV
Dark Silt over Shallow bedrock. No flydric Soli indicators were observed.		over challow k	oodrook	No bydrio co	sil india	otore i	voro ob	corvod	
	Daik Siit	Over Strailow i	Jeurock	. No flydlic Sc	ווועוניווווווויווני	aluis	were or	serveu.	



wird026\_u\_NW



wird026\_u\_SW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relo	cation Proiect	t	City/C	county: <u>Iror</u>	ı		Sampling Date	e: <u>2019-09-25</u>		
Applicant/Owner: Enbridge	•									
=			Section, Township, Range: <u>045N-001W-06</u>							
Landform (hillslope, terrace, et										
Subregion (LRR or MLRA): No.										
Soil Map Unit Name: Worm										
Are climatic / hydrologic condit	•		•	•						
								/ No		
Are Vegetation, Soil										
Are Vegetation, Soil	, or Hydrology		naturally problema	atic? (	(If needed, e	explain any answe	is in Remarks.)			
SUMMARY OF FINDING	3S – Attach sit	te m	ap showing sam	ipling poi	nt locatio	ns, transects	, important	features, etc.		
Hydrophytic Vegetation Press Hydric Soil Present?	Yes	✓	No		etland?	Yes <u></u> ✓				
Wetland Hydrology Present?  Remarks: (Explain alternativ			_ No	If yes, optio	nal Wetland	Site ID:				
shrub layer is domin	nated by winte	erbe	erry and the gr	ound lay	er is a m	nix of mostly	FACW sp	ecies.		
Wetland Hydrology Indicate	ors:					Secondary Indica	tors (minimum	of two required)		
Primary Indicators (minimum		check	c all that apply)			Surface Soil		or two required)		
Surface Water (A1)	or one is required, t		Water-Stained Leave			Drainage Patterns (B10)				
High Water Table (A2)			Aquatic Fauna (B13)			Moss Trim Lines (B16)				
Saturation (A3)			Marl Deposits (B15)			Dry-Season		2)		
Water Marks (B1)			Hydrogen Sulfide Od	or (C1)		Crayfish Buri				
Sediment Deposits (B2)			Oxidized Rhizosphere	es on Living f	Roots (C3)	Saturation Vi	sible on Aerial I	magery (C9)		
Drift Deposits (B3)			Presence of Reduced			Stunted or St		(D1)		
Algal Mat or Crust (B4)			Recent Iron Reductio			✓ Geomorphic				
Iron Deposits (B5)			Thin Muck Surface (C	•		Shallow Aqui				
Inundation Visible on Ae	• • • •		Other (Explain in Rer	narks)		Microtopogra		)		
Sparsely Vegetated Con Field Observations:	cave Surface (B8)					✓ FAC-Neutral	Test (D5)			
Surface Water Present?	Ves No	./	Depth (inches):							
Water Table Present?			Depth (inches):							
Saturation Present?			Depth (inches):		Wetland H	lydrology Presen	it? Yes 🗸	No		
(includes capillary fringe)							t. 100 <u> </u>			
Describe Recorded Data (stre	eam gauge, monitor	ring v	vell, aerial photos, pre	vious inspect	tions), if ava	ilable:				
Remarks:										
The wetland hydrological	ogy regime is	sat	turated.							

**VEGETATION** – Use scientific names of plants.

VEGETATION - Use scientific names of plants	-			Sampling Point: wird027s_w
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	<u>5.0</u> =	= Total Co	over	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 120 x 2 = 240
1. <u>Ilex verticillata</u>			<u>FACW</u>	FACUL process 20 x 4 20
2. Corylus cornuta	5.0	N	<u>FACU</u>	FACU species x 4 = 80
3. <u>Alnus incana</u>				UPL species 0 x 5 = 0  Column Totals: 155 (A) 365 (B)
4.         5.				Prevalence Index = B/A = 2.35
6.				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
	<u>85.0</u> =	= Total Co	over	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Carex intumescens	25.0	V	FΔCW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Brachyelytrum erectum			FACU	Problematic Hydrophytic Vegetation¹ (Explain)
3. Rubus idaeus		_N_	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Solidago gigantea</u>		_N_	FACW	be present, unless disturbed or problematic.
5. <u>Onoclea sensibilis</u>	5.0	N	FACW	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
		-		
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	65	= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4			-	Vegetation
	0.0		over	Present? Yes No
Remarks: (Include photo numbers here or on a separate The sample plot is located within a reco	sheet.)			

SOIL Sampling Point: wird027s\_w

Profile Desc	cription: (Describe	to the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	of indicators.)			
Depth (inches)	Matrix Redox Features  Color (moist) % Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>						l oc²	Texture	Remarks			
0-2	10YR 3/1	100		10101)		Турс		SIL	Kemano			
			40)/D	<i></i>					December and an alone			
2-10	10YR 4/1	95	<u>10YR</u>	5/6	5	<u> </u>	<u> </u>	SIL	Prominent redox			
		-										
	oncentration, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.			
Hydric Soil			Dahara	lua Dalai	C. urfa a a	(Co) (I D			for Problematic Hydric Soils <sup>3</sup> :			
Histosol	pipedon (A2)			ilue belov R <b>A 149B</b> )	v Surface	(56) ( <b>LK</b> I	х κ,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )			
Black H	istic (A3)						LRA 149B)	5 cm N	Mucky Peat or Peat (S3) (LRR K, L, R)			
	en Sulfide (A4) d Layers (A5)			-	/lineral (F1 Matrix (F2)		, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)				
	d Below Dark Surface	e (A11)		ed Matrix					Park Surface (S9) (LRR K, L)			
	ark Surface (A12)				rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)				
	Mucky Mineral (S1) Gleyed Matrix (S4)			ed Dark S Depress	Surface (Fi	7)		Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	Redox (S5)		Nedux	Debiess	10115 (1-0)			Red Parent Material (F21)				
Stripped	d Matrix (S6)							Very Shallow Dark Surface (TF12)				
Dark Su	ırface (S7) (LRR R, N	ILRA 1491	3)					Other	(Explain in Remarks)			
	f hydrophytic vegetat		etland hydro	logy mus	t be prese	nt, unles	s disturbed o	or problemation	<b>c.</b>			
	Layer (if observed):											
	arent material							Hydric Soil	Present? Yes No			
Remarks:	ches): <u>10</u>								1100m: 100 <u></u> no <u></u>			
	d matrix below	a dark	surface	layer.	Shallo	w par	ent mate	erial enco	ountered at 10 inches.			
•				,		'						



wird027s\_w\_E



wird027s\_w\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u> Sampling Date: <u>2019-09-25</u>						
•	State: WI Sampling Point: wird027f_w1						
nvestigator(s): AGG/MDL Section, Township, Range: 045N-001W-06							
	Local relief (concave, convex, none): Concave Slope (%): 0-2%						
	97 Long: <u>-90.530526</u> Datum: <u>WGS84</u>						
	slopes NWI classification: PFO1C						
Are climatic / hydrologic conditions on the site typical for this time of	•						
	tly disturbed? Are "Normal Circumstances" present? Yes _ ✓ No						
Are Vegetation, Soil, or Hydrology naturally							
SUMMARY OF FINDINGS – Attach site map showii	ng sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area						
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No						
Wetland Hydrology Present? Yes No							
Remarks: (Explain alternative procedures here or in a separate re The feature is a wet forest dominated by blace	oort.)						
The leading is a wel lotest dominated by black	A doll.						
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)						
Surface Water (A1) Water-Staine	ed Leaves (B9) Drainage Patterns (B10)						
High Water Table (A2) Aquatic Faur							
Saturation (A3) Marl Deposit							
Water Marks (B1) Hydrogen Su							
	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
	Reduced Iron (C4) Stunted or Stressed Plants (D1)						
Algal Mat or Crust (B4) Recent Iron   Iron Deposits (B5) Thin Muck S	Reduction in Tilled Soils (C6)  Geomorphic Position (D2)  urface (C7)  Shallow Aquitard (D3)						
Initial Deposits (B5) Third Muck S Other (Expla							
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)						
Field Observations:	<u> </u>						
Surface Water Present? Yes No✓ Depth (inche	es):						
Water Table Present? Yes No _ ✓ Depth (inche							
Saturation Present? Yes No _ / Depth (inches							
(includes capillary fringe)	des annieus l'annette à l'annieus l'						
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), ir available:						
Remarks:							
The wetland hydrology regime is seasonally	saturated.						

<b>/EGETATION</b> – Use scientific names of plants.	Sampling Point: wird027f_w1				
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet: Number of Dominant Species	
1. <u>Fraxinus nigra</u>	35.0	Y	<u>FACW</u>	That Are OBL, FACW, or FAC: 7 (A)	
2. <u>Populus tremuloides</u>	30.0	Y	FAC	Total Number of Dominant	
3. <u>Acer rubrum</u>	10.0	N	FAC	Species Across All Strata:	
4. <i>Tilia americana</i> 5.				Percent of Dominant Species That Are OBL, FACW, or FAC:	
6.				Prevalence Index worksheet:	
7.				Total % Cover of: Multiply by:	
		= Total Cov		OBL species x 1 = 25	
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 =	
1. <u>Fraxinus nigra</u>	10.0	Υ	FACW	FAC species61 x 3 =183	
2. Acer rubrum			FAC	FACU species 7 x 4 = 28	
3. Populus tremuloides			FAC	UPL species0 x 5 =0	
4. Tilia americana			FACU	Column Totals:170 (A)390 (B)	
5				Prevalence Index = B/A = 2.29	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
		= Total Cov		✓ 2 - Dominance Test is >50%	
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹	
1. <u>Carex intumescens</u>	25.0	Y	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
2. Calamagrostis canadensis		Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3. Rubus idaeus		N	FAC		
4. Carex crinita		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. <u>Equisetum sylvaticum</u>		N	FACW	Definitions of Vegetation Strata:	
6. <u>Onoclea sensibilis</u>		N	FACW	_	
7. Elymus hystrix		N	FACU	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. <u>Athyrium angustum</u>		N	FAC	Sapling/shrub – Woody plants less than 3 in. DBH	
9. Solidago gigantea	4.0	N	FACW	and greater than or equal to 3.28 ft (1 m) tall.	
10. <u>Dryopteris carthusiana</u>	1.0	N	FACW	Herb – All herbaceous (non-woody) plants, regardless	
11				of size, and woody plants less than 3.28 ft tall.	
12				Woody vines – All woody vines greater than 3.28 ft in	
	69.0	= Total Cov	/er	height.	
Woody Vine Stratum (Plot size:)					
1					
2					
3				Hydrophytic	
4				Vegetation Present? Yes ✓ No	
		= Total Cov	/er	162 <u>A</u> 140	
Remarks: (Include photo numbers here or on a separate s	sheet.)	- malic = 4 :	والما ومالم		
The sample point is located within wet f	orest do	Jillinate	a by bia	ick asn and quaking aspen.	

US Army Corps of Engineers

SOIL Sampling Point: wird027f\_w1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix		Redox Features				. 2				
(inches)	Color (moist)	%	Color (m	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks		
0-2	10YR 3/1	100			·			SICL			
2-6	10YR 4/1	95	10YR	5/6	5	C	M	SICL	Prominent redox		
	-				·						
	-										
	·				· ——				-		
					· -						
	oncentration, D=Depl	etion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil			Dobaco	lua Balas	Curfooo	(CO) (I DI	D D		s for Problematic Hydric Soils <sup>3</sup> :		
Histoso	pipedon (A2)			iue belov R <b>A 149B</b> )	v Surface	(56) (LKI	ĸκ,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )		
	istic (A3)			- /		RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4)			-	/lineral (F		(, L)		Surface (S7) (LRR K, L)		
	d Layers (A5)		-	-	Matrix (F2	)			alue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F	7)			Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S4)				ions (F8)	")		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	Redox (S5)				( )			Red Parent Material (F21)			
-	d Matrix (S6)							Very S	Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (LRR R, M	ILRA 149	3)					Other	(Explain in Remarks)		
<sup>3</sup> Indicators of	of hydrophytic vegetati	ion and w	atland hydro	loav mus	t he nrese	ant unles	e disturbad i	or problemati	C		
	Layer (if observed):	ion and w	Stidila Hydro	logy mas	it be prese	orit, ariico	3 diotarbed	or probleman	0.		
	arent material										
	ches): <u>6</u>							Hydric Soi	I Present? Yes No		
Remarks:	<u> </u>										
	d matrix with re	dox w	as obser	ved. S	Soils w	ere no	t sample	nd doon	ar due to parent material		
Depleted matrix with redox was observed. Soils were not sampled deeper due to parent material											
-	surface.	JOK W				010 110	r oampi	eu ueepe	or due to parent material		
-		AGK W				010110	r oampi	eu ueepe	si due to parent material		
-		COX W				010 110	r oumpi	eu ueepe	or due to parent material		
-		AGA W					e campi	ed deepe	si due to parent material		
-		AGA W					e dampi	ви ивере	si due to parent material		
-		JOK W				010110	e odmpi	ви ивере	si due to parent material		
-		JOK W					Compi	ви ивере	ar due to parent material		
-		JOK W					, campi	ви ивере	si due to parent material		
-		Jack W					, campi	ви ивере	si due to parent material		
-		Jack W					, campi	ви ивере	ar due to parent material		
-		Jack W					Compi	ви ивере	ar due to parent material		
-		JOK W					Compi	ви инере	ar due to parent material		
-		JOK W					Comple	ви инере	ar due to parent material		
-		Jack W					Compi	ви инере	ar due to parent material		
-		Jack W					Comple	ви инере	ar due to parent material		



wird027f\_w1\_N



wird027f\_w1\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relo	cation Project	t	City/C	ounty: Iror	1		Sampling Date: 20	)19-09-25	
Applicant/Owner: Enbridge	•								
Investigator(s): AGG/MDI									
Landform (hillslope, terrace, et									
Subregion (LRR or MLRA): No.									
Soil Map Unit Name: Minoc									
Are climatic / hydrologic condit	•								
								No	
Are Vegetation, Soil								_ NO	
Are Vegetation, Soil	, or Hydrology		naturally problema	atic?	(If needed, e	xplain any answer	's in Remarks.)		
SUMMARY OF FINDING	3S – Attach sit	te m	ap showing sam	pling poi	nt locatio	ns, transects,	, important feat	ures, etc.	
Hydrophytic Vegetation Present?			_ No No	Is the Sam within a W		Yes <u>√</u>	No		
Wetland Hydrology Present?			No	If yes, option	nal Wetland	Site ID:			
The wetland is a ha			20a.oa by a				, 1099001		
HYDROLOGY									
Wetland Hydrology Indicate						-	tors (minimum of two	required)	
Primary Indicators (minimum	of one is required;					Surface Soil (			
Surface Water (A1)			Water-Stained Leave			Drainage Patterns (B10) Moss Trim Lines (B16)			
<ul><li>High Water Table (A2)</li><li>Saturation (A3)</li></ul>			Aquatic Fauna (B13) Marl Deposits (B15)				Nater Table (C2)		
Water Marks (B1)			Hydrogen Sulfide Ode	or (C1)		Dry-Season \u2200 Crayfish Burn			
Sediment Deposits (B2)			Oxidized Rhizosphere		Roots (C3)		sible on Aerial Image	erv (C9)	
Drift Deposits (B3)			Presence of Reduced	_	(00)		ressed Plants (D1)	,, y (00)	
Algal Mat or Crust (B4)			Recent Iron Reductio	. ,	oils (C6)	Geomorphic l			
Iron Deposits (B5)			Thin Muck Surface (C		, ,	Shallow Aqui			
Inundation Visible on Ae	rial Imagery (B7)		Other (Explain in Ren			Microtopogra			
Sparsely Vegetated Con	cave Surface (B8)					✓ FAC-Neutral	Test (D5)		
Field Observations:									
Surface Water Present?	Yes No _	✓	Depth (inches):						
Water Table Present?	Yes No _	✓	Depth (inches):						
Saturation Present?	Yes No _	✓	Depth (inches):		Wetland H	lydrology Presen	t? Yes <u>√</u> N	10	
(includes capillary fringe)  Describe Recorded Data (stre	eam gauge, monitor	rina v	vell. aerial photos, pre	vious inspec	tions). if ava	ilable:			
(***	33.,	3	, , , , , , , , , , , , , , , , , , , ,		-,,				
Remarks: The wetland hydrological interesting the second results of the second results and the second results are second results.	nav rogimo is	co.	aconally catura	tod The	ro aro n	oole procont	t in the area th	nat	
	0, 0		•		ie ale p	oois present	i iii iiie area ii	iai	
appear to hold wate	i in the spring	y ai	id early summi	er.					
1									

**VEGETATION** – Use scientific names of plants.

/EGETATION – Use scientific names of plants				Sampling Point: wird027f_w2
Tree Stratum (Plot size:30')	Absolute % Cover		nt Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2				Total Number of Dominant Species Across All Strata: 4.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6 7				Prevalence Index worksheet:  Total % Cover of: Multiply by:
	75.0	·		OBL species
Sapling/Shrub Stratum (Plot size:15')				FACW species 130.0 x 2 = 260.0
1. <u>Ilex verticillata</u>	25.0	Y	FACW	FAC species x 3 =0.0
2.				FACU species x 4 =0.0
3.				UPL species x 5 =0.0
				Column Totals: <u>170.0</u> (A) <u>300.0</u> (B)
4.     5.				Prevalence Index = B/A = 1.8
6.				Hydrophytic Vegetation Indicators:
7				
T		= Total Co		∠ 2 - Dominance Test is >50%
Horb Stratum (Diet size: 5'	20.0	= Total Ct	ovei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Calamagrostis canadensis	25.0	Y	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex intumescens</u>	15.0	Y	<u>FACW</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Persicaria punctata	10.0	N	OBL	1
4. <u>Solidago gigantea</u>			FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Iris versicolor</u>		N	OBL	Definitions of Vegetation Strata:
6. Equisetum sylvaticum				
7.				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11 12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Co	over	Present? Yes No
Remarks: (Include photo numbers here or on a separate The sample plot is located within a wet		lominat	ted by bl	ack ash.

SOIL Sampling Point: wird027f\_w2

Profile Desc	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)			
Depth	Matrix				x Features	1	. 2	<b>-</b> .	5			
(inches) 0-12	Color (moist) 10YR 4/2	<u>%</u> 05	Color (m		 5	Type'	Loc <sup>2</sup>	Texture CI	Prominent redox			
		· · · <u></u>	1011	3/0			IVI		<u>FTOTIMENT TEGOX</u>			
12-20	7.5YR 4/3	100				-		SIL				
			-									
	-		-			-						
	oncentration, D=Dep	letion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.			
Hydric Soil Histosol			Polyva	lue Belov	v Surface	(S8) ( <b>I R</b> I	R R		s for Problematic Hydric Soils <sup>3</sup> : Muck (A10) (LRR K, L, MLRA 149B)			
	pipedon (A2)		-	RA 149B)		(00) (EII			Prairie Redox (A16) (LRR K, L, R)			
	istic (A3)						LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)			
	en Sulfide (A4) d Layers (A5)			-	/lineral (F1 Matrix (F2		., L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)			
	d Below Dark Surface	e (A11)		ed Matrix		,			Park Surface (S9) (LRR K, L)			
	ark Surface (A12)				rface (F6)	· <b>-</b> 7\			langanese Masses (F12) (LRR K, L, R)			
-	Mucky Mineral (S1) Gleyed Matrix (S4)			ed Dark s Depress	Surface (F ions (F8)	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)  Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy F	Redox (S5)			.,	- ( - )			Red Parent Material (F21)				
	Matrix (S6)	II D A 440	<b>D</b> )					Very Shallow Dark Surface (TF12)				
Dark Su	rface (S7) (LRR R, N	ILKA 149	<b>5</b> )					Other	(Explain in Remarks)			
	f hydrophytic vegetat		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	С.			
Type:	Layer (if observed):											
	ches):							Hydric Soi	Present? Yes/ No			
Remarks:												
Depleted	l matrix was o	bserve	d.									



wird027f\_w2\_NW



wird027f\_w2\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): AGG/MDL		
File #: wird027	Date of visit(s): 09/25/2019		
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	pe:	
Lat: <u>46.40868</u> Long: <u>-90.530481</u>	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: T3K, S3/E2K, T3/5K		
193A Minocqua muck, 5373A Cathro muck, drainageway, 815A Wormet sandy loam	Wetland Type(s): PFO/PSS complex - hardwood swamp/shrub-carr		
Field Verified:			
Series not verified. In the forested component soils were a clay loam over silty loam, and in the shrub	Wetland Size: 12.68	Wetland Area Impacted 12.68	
component soils were a silt loam throughout.	Vegetation: Plant Community D	escription(s):	
Hydrology: The hydrologic regime is seasonally saturated. Pools present in the area appear to hold water in the spring and early summer.	The hardwood swamp component is dominated mostly by Fraxinus nigra, with a variety of shrubs intermixed and Calamagrostis canadensis and Carex intumescens dominating the herbaceous layer. The shrub-carr component is dominated by Ilex verticillata, Carex intumescens, and Brachyelytrum erectum.		

SIT	E MAP	 	 	

#### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Y	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3		·	Within or adjacent to habitat corridor or established wildlife habitat area
-	N	N	
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	Ν	Ν	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP	•		Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	- 1 1	11	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Ν	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	IN	IN	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	Ν	N	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
	N	Y	
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located on county land WH-1: the wetland itself is a large feature, and is connected with the surrounding forest. Logging roads are present in the area but do not cut off habitat WH-6: the feature has been clear cut by logging in areas, which has also caused some areas to be shrub systems WH-9: there appear to be shallow pools in the wetland that are inundated in the spring Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments **Amphibians** Υ Birds Mammals Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Populus tremuloides			PSS, PFO	Common
Acer rubrum			PFO	Common
Tilia americana			PFO	Uncommon
llex verticillata			PSS, PFO	Abundant
Corylus cornuta			PSS	Uncommon
Alnus incana			PSS	Uncommon
Carex intumescens			PSS, PFO	Common
Brachyelytrum erectum			PSS	Common
Rubus idaeus			PSS, PFO	Common
Solidago gigantea			PSS, PFO	Uncommon
Onoclea sensibilis			PSS, PFO	Uncommon
Calamagrostis canadensis			PFO	Common
Persicaria punctata			PFO	Common
Iris versicolor			PFO	Uncommon
Equisetum sylvaticum			PFO	Uncommon
Carex crinita			PFO	Uncommon
Elymus hystrix			PFO	Rare
Athyrium angustum			PFO	Rare
Dryopteris carthusiana			PFO	Rare

#### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The feature is dominated by Fraxinus nigra and Populus tremuloides. The ground layer of the feature is relatively diverse. Dominant species vary by area within the wetland, but diversity within each of those areas is relatively low. No invasive species were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		L	С	grading, earthworms, etc.
V	V	V	B. 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
Х	Х		L	С	Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Т	he feature is disturbed by historic and recent logging activity, but is otherwise unstressed.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	•		<b>√</b>		
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>1</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Species diversity is good with no one species dominating over the rest
Human Use Values	County land signs of hunting in the area
Wildlife Habitat	No wildlife observed
Fish and Aquatic Life Habitat	Provides habitat for amphibians in the spring
Shoreline Protection	N/A
Flood and Stormwater Storage	Large shallow basin
Water Quality Protection	Closed depression that allows a limited amount of water to infiltrate
Groundwater Processes	Recharge feature

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocati	on Proiect	City/C	County: Iron		Sampling Date: 2019-09-25
Applicant/Owner: Enbridge	•				
Investigator(s): AGG/MDL					
Landform (hillslope, terrace, etc.):					
Subregion (LRR or MLRA): Northc					
Soil Map Unit Name: Wormet s					
	•	•	•		
Are climatic / hydrologic conditions					
Are Vegetation, Soil					
Are Vegetation, Soil	_, or Hydrology _	naturally problema	atic? (If no	eeded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS -	- Attach site	map showing san	npling point l	ocations, transects	, important features, etc.
Library buties Verentation Dress and	Vaa	No. /	Is the Sampled	d Area	
Hydrophytic Vegetation Present? Hydric Soil Present?		No <u>✓</u> No <u>✓</u>	within a Wetla		No <u>√</u>
Wetland Hydrology Present?		No <u>✓</u>	If ves_ontional	Wetland Site ID:	
Remarks: (Explain alternative pro			n you, optional	Worlding Oile 15.	
The sample point is loc	ated on a r	rise surrounded b	by wetland.		
HYDROLOGY					
Wetland Hydrology Indicators:					tors (minimum of two required)
Primary Indicators (minimum of or	•			<del></del>	
Surface Water (A1)		Water-Stained Leave		Drainage Pat	
<ul><li>High Water Table (A2)</li><li>Saturation (A3)</li></ul>		<ul><li>Aquatic Fauna (B13)</li><li>Marl Deposits (B15)</li></ul>		Moss Trim Li	Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burr	
Sediment Deposits (B2)		Oxidized Rhizospher		· · · · · · · · · · · · · · · · · · ·	sible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced	_		ressed Plants (D1)
Algal Mat or Crust (B4)	=	Recent Iron Reduction	, ,		
Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aqui	
Inundation Visible on Aerial Ir		 Other (Explain in Rer			phic Relief (D4)
Sparsely Vegetated Concave	Surface (B8)			FAC-Neutral	Test (D5)
Field Observations:					
Surface Water Present? Ye	es No	Depth (inches):			
Water Table Present? Ye	es No	Depth (inches):			
	es No	/ Depth (inches):	W	etland Hydrology Presen	t? Yes No✓_
(includes capillary fringe)  Describe Recorded Data (stream)	gauge monitorir	ng well aerial photos, pre	vious inspections	s) if available:	
Decembe Necerada Data (etream	gaago, momon	ig won, doridi priotoo, pro	wiede inopeedien	o), ii availabio.	
Remarks:	ndiantara u	vore chaomical			
No wetland hydrology i	ndicators v	vere observed.			

**VEGETATION** – Use scientific names of plants.

				Sampling Point: wird027 u
	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)
5				That Ale OBE, I AOW, OI I AO.
6 7				Prevalence Index worksheet:
	40.0			
Sapling/Shrub Stratum (Plot size:15')	<u>-40.0</u>	- 10141 00	, v Ci	FACW species 0.0 x 2 = 0.0
1. <u>Tilia americana</u>	15.0	Υ	FACU	FAC species 80.0 x 3 = 240.0
2. Acer saccharum			FACU	FACU species <u>80.0</u> x 4 = <u>320.0</u>
3. Quercus rubra				UPL species x 5 =0.0
				Column Totals: <u>160.0</u> (A) <u>560.0</u> (B)
4.         5.				Prevalence Index = B/A =3.5
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	35.0			2 - Dominance Test is >50%
Hart Stratum (Distains)	33.0	= Total CC	ivei	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Carex pedunculata	30 O	V	ΕΛC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Mitchella repens		Y	FACU	Problematic Hydrophytic Vegetation¹ (Explain)
Maianthemum canadense		i_	FACU	
4. Brachyelytrum erectum		N N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
5. Rubus idaeus		N N	FAC	be present, unless disturbed or problematic.
		N	FACU	Definitions of Vegetation Strata:
6. <u>Pyrola elliptica</u> 7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	85.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2.				
3				Hydrophytic
•				Vegetation
4.	0.0			Present? Yes No✓
4			N/Ωr	

SOIL Sampling Point: wird027\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type¹ Loc²			Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 3/2	100					SI	
0 10	10111 0/2	100						
	·							
	-							
	-							
	-							
-		·			-			
	-	·						
¹Type: C=C	oncentration D=Dep	letion RM:		=Masked	Sand Gr	ains	<sup>2</sup> Location: PL:	=Pore Lining, M=Matrix.
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <b>Hydric Soil Indicators:</b>						Indicators for Problematic Hydric Soils <sup>3</sup> :		
Histosol (A1) Polyvalue Below Surface (S8) (LRR R,						RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)		MLRA 149B)		DD D MI	DA 440D)		ie Redox (A16) (LRR K, L, R)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)						5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L)		
Stratified Layers (A5) Loamy Gleyed Matrix (F2)						Polyvalue Below Surface (S8) (LRR K, L)		
Depleted Below Dark Surface (A11) Depleted Matrix (F3)						Thin Dark Surface (S9) (LRR K, L)		
Thick Dark Surface (A12) Redox Dark Surface (F6)						Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Redox (S5)						Red Parent Material (F21)		
Stripped Matrix (S6)						Very Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (LRR R, N	/ILRA 149E	3)				Other (Expl	ain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type: parent material								
Depth (inches): 10						Hydric Soil Pres	sent? Yes No/_	
Remarks:								
ivo nyari	c soil indicator	rs were	observed.					



wird027\_u\_S



wird027\_u\_W

Project/Site: Line 5 Relocation Project	City/County:	ron	Sampling Date: 2019-09-25
Applicant/Owner: Enbridge		State: WI	Sampling Point: wird027s_u
Investigator(s): AGG/MDL			
Landform (hillslope, terrace, etc.): Toeslope			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Wormet sandy loan			
Are climatic / hydrologic conditions on the site typic	•		
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach sit	e map showing sampling	point locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes		Sampled Area	
Hydric Soil Present? Yes	No ✓ within	a Wetland? Yes	No <u> </u>
		optional Wetland Site ID:	
Remarks: (Explain alternative procedures here of The sample point is located in an	or in a separate report.)	heen recently clear cu	ıt Δlthough it has
been recently logged there are st		•	Ü
been recently logged there are st	ili lew sugai mapie tree	is left startuing in the a	ii Ga.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; of		Surface Soi	l Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim I	
Saturation (A3)	Marl Deposits (B15)		Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		/isible on Aerial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)	<ul><li>Presence of Reduced Iron (C</li><li>Recent Iron Reduction in Tille</li></ul>		Stressed Plants (D1) c Position (D2)
Algal Mat 01 Crust (B4) Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqı	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		Il Test (D5)
Field Observations:			11 1031 (100)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):		nt? Yes No✓_
(includes capillary fringe)	Samuella and all a batter and a state of	and Const. March Solds	
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous ins	spections), if available:	
Remarks:			
No wetland hydrology indicators	were observed.		

<b>VEGETATION</b> – Use scientific names of plants.				Sampling Point: wird027s_u
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Acer saccharum</u>	25.0	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1,0(A)
2. <u>Abies balsamea</u>	10.0	Y	FAC	Total Number of Dominant
3				Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 20.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	35.0	= Total Co	over	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species 0.0 x 2 = 0.0
1				FAC species 10.0 x 3 = 30.0 FACU species 125.0 x 4 = 500.0
2				UPL species x 5 =
3				Column Totals: <u>135.0</u> (A) <u>530.0</u> (B)
4				
5				Prevalence Index = B/A = 3.9
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Mitchella repens</u>			FACU	data in Remarks or on a separate sheet)
2. <u>Brachyelytrum erectum</u>			<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Pteridium aquilinum</u>			<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
	0.0	= Total Co	over	100 110
Remarks: (Include photo numbers here or on a separate some sample plot has recently been clear they previously were.	sheet.)			I and shrub strata less vegetated than

SOIL Sampling Point: wird027s\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix		Redo Color (moist)	x Features	4	1 2	Tautuma	Damada
(inches)	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture SI	Remarks
							SI	
8-20	10YR 4/3	100					<u> </u>	
				· ———				
		·						
<sup>1</sup> Type: C=C	oncentration, D=Depl	letion RM-	Reduced Matrix MS	S-Masker	Sand Gr	ains	<sup>2</sup> l ocation: Pl =	=Pore Lining, M=Matrix.
Hydric Soil		iotion, rtivi	readoca Matrix, Me	<u>J-Maskee</u>	Tourid Ort	AII 10.		roblematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		(A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		.RR R. MI	_RA 149B)		e Redox (A16) ( <b>LRR K, L, R</b> ) Peat or Peat (S3) ( <b>LRR K, L, R</b> )
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surfac	e (S7) ( <b>LRR K, L</b> )
	d Layers (A5) d Below Dark Surface	- (Δ11)	Loamy Gleyed I Depleted Matrix		)			elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					nese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark \$		7)			oodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)				ic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Material (F21)
Stripped	d Matrix (S6)						Very Shallov	w Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149B	)				Other (Expla	ain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:							Hudrio Soil Bros	ent? Yes No <u>√</u>
Depth (in Remarks:	ches):						nyuric son Fres	ent: res NO_V
	c soil indicator	s were	observed.					



wird027s\_u\_N



wird027s\_u\_W

Project/Site: Line 5 Relocation	on Project	City/C		S	ampling Date: 2019-09-25	
Applicant/Owner: Enbridge	•			Sta	ate: WI	Sampling Point: wird027f_u1
Investigator(s): AGG/MDL		Section Section	on, Township,	Range: <u>045N</u>	1-001W-06	
Landform (hillslope, terrace, etc.): <u>f</u>						
Subregion (LRR or MLRA): Northc						
Soil Map Unit Name: Minocqua						
Are climatic / hydrologic conditions						
Are Vegetation, Soil						
Are Vegetation, Soil						
SUMMARY OF FINDINGS -	- Attach site n	nap showing sam	npling poin	nt locations,	transects, i	mportant features, etc.
Hydrophytic Vegetation Present?	Yes ✓	No	Is the Samp	oled Area		
Hydric Soil Present?		No <u> </u>	within a We	tland?	Yes	No <u>√</u>
Wetland Hydrology Present?		No/	If yes, option	nal Wetland Site	ID:	_
Remarks: (Explain alternative pro	cedures here or in	a separate report.)	d foract de	ominated b	v cugar m	anla
The sample point is loc	ated within n	nesic nardwood	a lorest do	ommated b	y sugai ili	apie.
HYDROLOGY						
Wetland Hydrology Indicators:				Seco	ondary Indicator	rs (minimum of two required)
Primary Indicators (minimum of or	ne is required; chec	k all that apply)			Surface Soil Cra	acks (B6)
Surface Water (A1)		Water-Stained Leave	es (B9)		Drainage Patter	rns (B10)
High Water Table (A2)		Aquatic Fauna (B13)			Moss Trim Line	
Saturation (A3)		Marl Deposits (B15)			Dry-Season Wa	
Water Marks (B1)		Hydrogen Sulfide Od			Crayfish Burrow	
Sediment Deposits (B2)		Oxidized Rhizosphere	_			ole on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced				ssed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reductio		. ,	Geomorphic Po	
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aquitar Microtopograph	
Inundation Visible on Aerial In		Other (Explain in Rer	narks)		FAC-Neutral Te	` '
Sparsely Vegetated Concave Field Observations:	Surface (Bo)					(D5)
	s No 🗸	_ Depth (inches):				
		Depth (inches):				
		Depth (inches):		Wetland Hydro	ology Present?	Yes No √
(includes capillary fringe)		- , , , ,		•	•	
Describe Recorded Data (stream	gauge, monitoring	well, aerial photos, pre	evious inspecti	ons), if available	ŧ:	
Remarks:						
No primary wetland hyd	drology indicated	ators were obse	erved.			

				Sampling Point: wird027f_u1
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum		-		Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. Populus tremuloides				Total Number of Dominant
3				Species Across All Strata:5(B)
4				Percent of Dominant Species
5	<del>.</del>			That Are OBL, FACW, or FAC: 80.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	<u>_70.0</u> =	= Total Co	ver	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')	<b>5</b> 0	\	<b>-</b> 4014/	FACW species
1. <u>Fraxinus nigra</u>				FACU species
2. <u>Ulmus americana</u>				UPL species0 x 5 =0
3				Column Totals: <u>156</u> (A) <u>513</u> (B)
4				Prevalence Index = B/A = 3.29
5				
6				Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	<u>10.0</u> =	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	50 O	V	EAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
<u>Carex pedunculata</u> <u>Pteridium aquilinum</u>			FACU	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Athyrium angustum			FAC	
4. Rubus idaeus				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
5				be present, unless disturbed or problematic.
6.				Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9			·	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	<u>76</u> =	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				Hydrophytic
2				Tiyarophiyao
				Vegetation Present? Yes ✓ No

SOIL Sampling Point: wird027f\_u1

		_	th needed to docur			or confirm	the absence of i	indicators.)	
Depth (inches)	Matri Color (moist)		Color (moist)	x Features  %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 4/3	3 100					SI		
1									
Type: C=C Hydric Soil		Depletion, RM	=Reduced Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :	
Histoso			Polyvalue Belov	v Surface	(S8) ( <b>LR</b>	RR,		k (A10) ( <b>LRR K, L, MLRA 149B</b> )	
	pipedon (A2)		MLRA 149B)				Coast Pra	irie Redox (A16) (LRR K, L, R)	
	listic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					ky Peat or Peat (S3) (LRR K, L, R) ace (S7) (LRR K, L)	
	ed Layers (A5)		Loamy Gleyed			, <b>-</b> )		Below Surface (S8) (LRR K, L)	
	ed Below Dark Sur		Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1		Redox Dark Su Depleted Dark S		7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix (S4		Redox Depress		")		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							nt Material (F21)	
	d Matrix (S6) urface (S7) ( <b>LRR I</b>	R, MLRA 149I	3)					low Dark Surface (TF12) plain in Remarks)	
	of hydrophytic veg		etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
	arent material	•							
	nches): <u>8</u>						Hydric Soil Pre	esent? Yes No✓_	
Remarks:							1		
No hydri	c soil indica	tors were	observed.						



wird027f\_u1\_N



wird027f\_u1\_SE

Project/Site: Line 5 Relocation Project	City/County: _	ron	Sampling Date: 2019-09-25		
Applicant/Owner: Enbridge					
Investigator(s): AGG/MDL	Section, Town	ship, Range: <u>045N-001W-</u>	06		
Landform (hillslope, terrace, etc.): Rise					
Subregion (LRR or MLRA): Northcentral Forests L					
Soil Map Unit Name: Minocqua muck, 0 to					
Are climatic / hydrologic conditions on the site typica	·				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes		Sampled Area			
	INO <u></u>	a Wetland? Yes	No/		
		optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or in The upland sample point is located	in a separate report.)	hy wetland. The cand	nv is dominated by		
sugar maple and balsam fir.	a on a rise surrounded	by Welland. The Canc	py is dominated by		
Sugai mapie and baisam iii.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soi	Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)		
	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
	Marl Deposits (B15)		Water Table (C2)		
	_ Hydrogen Sulfide Odor (C1)	Crayfish Bu			
	_ Oxidized Rhizospheres on Liv	-	/isible on Aerial Imagery (C9)		
1 — · · · · · — —	Presence of Reduced Iron (C	· —	Stressed Plants (D1)		
	Recent Iron Reduction in Tille		Position (D2)		
	_ Thin Muck Surface (C7)	Shallow Aquitard (D3) Microtopographic Relief (D4)			
	_ Other (Explain in Remarks)		' '		
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	Il Test (D5)		
	Depth (inches):				
	Depth (inches):				
	Depth (inches):		nt? Yes No ✓		
(includes capillary fringe)		_			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous ins	spections), if available:			
Remarks:					
No wetland hydrology indicators w	ere observed.				

t Species  N, or FAC:
M, or FAC:
minant Strata:
t Species  N, or FAC: 20.0 (A/B)  vorksheet:  0.0
W, or FAC: (A/B)  worksheet:  of: Multiply by:  0.0
worksheet:         Multiply by:           0.0         x 1 = 0.0           0.0         x 2 = 0.0           50.0         x 3 = 150.0
$ \begin{array}{cccc}                                  $
$\begin{array}{ccc} 0.0 & x & 1 & = & 0.0 \\ 0.0 & x & 2 & = & 0.0 \\ 50.0 & x & 3 & = & 150.0 \end{array}$
$0.0$ $\times 2 = 0.0$ $50.0$ $\times 3 = 150.0$
50.0 x 3 = <u>150.0</u>
52 0 ×4 - 600 0
<u> </u>
0.0   x5 = 0.0
202.0 (A) <u>758.0</u> (B)
dex = B/A =3.8
ation Indicators:
or Hydrophytic Vegetation
Test is >50%
ndex is ≤3.0 <sup>1</sup> al Adaptations <sup>1</sup> (Provide supporting
arks or on a separate sheet)
drophytic Vegetation <sup>1</sup> (Explain)
soil and wetland hydrology must
listurbed or problematic.
etation Strata:
s 3 in. (7.6 cm) or more in diameter
H), regardless of height.
pody plants less than 3 in. DBH equal to 3.28 ft (1 m) tall.
,
us (non-woody) plants, regardless plants less than 3.28 ft tall.
woody vines greater than 3.28 ft in
Yes No _ ✓

SOIL Sampling Point: wird027f\_u2

Profile Desc	ription: (Describe to	the depth	needed to docum	ent the in	ndicator	or confirm	the absence of in	ndicators.)
Depth	Matrix			Features				
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type'	Loc <sup>2</sup>	Texture	Remarks
¹Type: C=Co	ncentration, D=Deple	tion, RM=F	Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL	L=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for	Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, MLRA 149B)  Black Histic (A3) — Thin Dark Surface (S9) (LRR R, MLRA Loamy Mucky Mineral (F1) (LRR K, L)  Stratified Layers (A5) — Loamy Gleyed Matrix (F2)  Depleted Below Dark Surface (A11) — Depleted Matrix (F3)  Thick Dark Surface (A12) — Redox Dark Surface (F6)  Sandy Mucky Mineral (S1) — Depleted Dark Surface (F7)  Sandy Gleyed Matrix (S4) — Redox Depressions (F8)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)			-RA 149B)	Coast Prai 5 cm Muck Dark Surfa Polyvalue I Thin Dark Iron-Manga Piedmont I Mesic Spo Red Paren Very Shalle	c (A10) (LRR K, L, MLRA 149B) rie Redox (A16) (LRR K, L, R) sy Peat or Peat (S3) (LRR K, L, R) rice (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) ric (TA6) (MLRA 144A, 145, 149B) rit Material (F21) ow Dark Surface (TF12) olain in Remarks)			
	hydrophytic vegetation ayer (if observed):	n and wetl	and hydrology must	t be prese	nt, unless	disturbed	or problematic.	
	rent material							
Depth (inc			<u> </u>				Hydric Soil Pre	sent? Yes No/_
	near the surfac							ulders and parent re position and dominant



wird027f\_u2\_NE



wird027f\_u2\_S

Project/Site: Line 5 Relocation Project	City/County: Iror	<u>)                                    </u>	Sampling Date: <u>2019-10-01</u>			
•						
Investigator(s): AGG/OTG						
	pe, terrace, etc.): Depression Local relief (concave, convex, none): Conc					
Subregion (LRR or MLRA): Northcentral Forests Lat:						
Soil Map Unit Name: Chabeneau-Annalake						
Are climatic / hydrologic conditions on the site typical for	•	•				
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site ma	ap showing sampling poi	nt locations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes ✓	No. Is the Sam	pled Area				
	110	etland? Yes <u>√</u>	No			
Wetland Hydrology Present? Yes✓		nal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a	separate report.)					
The feature is a shrub swamp domin	ated by winterberry an	d Scirpus hattorianus	S.			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)			
Primary Indicators (minimum of one is required; check	all that apply)	·				
	Water-Stained Leaves (B9)	Drainage Patte				
	Aquatic Fauna (B13)	Moss Trim Lin				
	Marl Deposits (B15)		/ater Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	ows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation Vis	ible on Aerial Imagery (C9)			
1 · · · · · · · · · · · · · · · · · · ·	Presence of Reduced Iron (C4)	Stunted or Str	essed Plants (D1)			
	Recent Iron Reduction in Tilled Sc	oils (C6) <u>/</u> Geomorphic P	Position (D2)			
	Thin Muck Surface (C7)	Shallow Aquita				
	Other (Explain in Remarks)	Microtopograp	` '			
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral T	est (D5)			
Field Observations:	5 11 (1 1 )					
	Depth (inches):					
	Depth (inches):	Wetland Hydrology Present	O Von / No			
(includes capillary fringe)	Depth (inches):	wetiand Hydrology Present	? res <u>√</u> No			
Describe Recorded Data (stream gauge, monitoring w	ell, aerial photos, previous inspec	ions), if available:				
Remarks:						
The wetland hydrology regime is satu	urated.					

	Absolute	Dominant	Indicator	Daminana Taat wallahaat
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	Dominance Test worksheet:  Number of Dominant Species
1. Populus tremuloides	10.0	Y	FAC	That Are OBL, FACW, or FAC:(A)
2. <u>Ulmus americana</u>	2.0	N	<u>FACW</u>	Total Number of Dominant
3				Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
		= Total Cov		OBL species x1 =
Sapling/Shrub Stratum (Plot size: 15' )	12.0	. 0.0		FACW species 74.0 x 2 = 148.0
1. <u>Ilex verticillata</u>	35 N	Υ	FACW	FAC species 10.0 x 3 = 30.0
2. Alnus incana			FACW	FACU species x 4 =0.0
		N	FACW	UPL species <u>0.0</u> x 5 = <u>0.0</u>
3. Cornus alba				Column Totals: <u>159.0</u> (A) <u>253.0</u> (B)
4. <u>Salix pyrifolia</u>			FACW	Prevalence Index = B/A =1.6
5. <u>Salix bebbiana</u>		N	FACW	
6			·	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	62.0	= Total Co	ver	✓ 2 - Dominance rest is >50%  ✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	40.0	V	ODI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Scirpus hattorianus</u>		Y	OBL	data in Remarks or on a separate sheet)
2. <u>Calamagrostis canadensis</u>		Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex intumescens</u>			FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Carex crinita	10.0_	N	OBL	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	85.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
				Hadran hada
3			-	Hydrophytic Vegetation
4			. ——	Present? Yes No
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
The area is dominated by wetland shru		area wa	as recer	ntly logged, removing a majority of the
tree canopy.				, 33 , 3
.,				

Sampling Point: wird035s\_w

SOIL Sampling Point: wird035s\_w

Profile Desc	cription: (Describe	to the dep	th needed t	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix	0/	Calar (m		x Features	1	Loc <sup>2</sup>	Ta	Remarks
(inches) 0-16	Color (moist) 10YR 4/2	<u>%</u> 95	Color (m		 5	Type'	M	Texture CI	
		100	10111	0/0				SIL	1 TOTTIII CHE TOGOX
10 20	10111 0/1	100	-					OIL	
					· <del></del>				
					. ———	-			
					. ———				
					· <del></del>	-			
'Type: C=C  Hydric Soil	oncentration, D=Depl Indicators:	etion, RM	=Reduced M	latrix, MS	S=Masked	I Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histosol	I (A1)		Polyva	lue Belov	v Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			RA 149B)		DD D M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
I	en Sulfide (A4)				/lineral (F1				Surface (S7) ( <b>LRR K, L</b> )
	d Layers (A5)	. (111)	-	-	Matrix (F2	2)			alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Sui	rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Deplete	ed Dark S	Surface (F			Piedm	nont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Parent Material (F21)
	d Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149	B)					Other	(Explain in Remarks)
	of hydrophytic vegetat		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	С.
	Layer (if observed):								
Type:	choc):							Hydric Soi	I Present? Yes No
Remarks:	ches):							Tryuno con	
	d matrix with re	edox w	as obser	ved.					



wird035s\_w\_N



# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG	
File #: wird035	Date of visit(s): 10/01/2019	
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:
Lat: <u>46.412464</u> Long: <u>-90.545845</u>	Watershed: LS13, Tyler Forks	
County: Iron Town/City/Village: Anderson town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: N/A	
5543B Chabeneau-Annalake complex  Field Verified:	Wetland Type(s): PSS - alder thicket	
Series not verified. Soils were clay loam above silt loam.	Wetland Size: 0.14	Wetland Area Impacted 0.14
	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is saturated with recharge hydrology.	The shrub cover is dominated by Ilex verticillata and Alnus incana, with ground cover dominated by Scirpus hattorianus and Calamagrostis canadensis.	

SITE MAP		

## **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
0			· ·
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Ν	Ν	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	Ν	Ν	water levels or high flows – if no, not applicable
3	Ν	Ν	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3			Water flow through wetland is NOT channelized
	Y	Y	
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ν	Ν	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	1 1	1.1	1. Sustrict of Millimit & Molinicus proteotion area

Se	ction 1 Con	nments (Refer to Section 1 numbers)
WH-2: tree cover is p HU-3: accessible to ST-5: receives runof	the public on county	land, no observable recreational uses ng road
Lis		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
	Υ	Birds
	Υ	Amphibians
		atic Life Habitat and Species Observations pservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates
	1	

## **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PSS	Common
Umlus americana			PSS	Uncommon
llex verticillata			PSS	Common
Alnus incana			PSS	Common
Cornus alba			PSS	Uncommon
Salix pyrifolia			PSS	Uncommon
Salix bebbiana			PSS	Uncommon
Scirpus hattorianus			PSS	Common
Calamagrostis canadensis			PSS	Common
Carex intumescens			PSS	Common
Carex crinita			PSS	Common

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The plant community is dominated by few native species, including Alnus incana, Ilex verticillata, and gramminoid species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
Ì					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		М	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
Х	Х		Н	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

logged, resulting in the removal of the majority of the tree canopy.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Dominated by native species
Human Use Values	Small, shrub-dominated wetland with difficult accessibility and no recreational or research uses
Wildlife Habitat	Birds observed, multiple strata present
Fish and Aquatic Life Habitat	Potential inundation of vegetation in the spring may support aquatic invertebrates
Shoreline Protection	N/A
Flood and Stormwater Storage	Not associated with a waterbody
Water Quality Protection	Shallow, recharge basin
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	t City/Cour	nty: <u>Iron</u>	Sampling [	Date: <u>2019-10-01</u>	
Applicant/Owner: Enbridge		Sta	ite: WI Sampling	g Point: <u>wird035 U</u>	
Investigator(s): AGG/OTG	Section, <sup>-</sup>	Township, Range: <u>045N</u>	I-001W-06		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forest					
Soil Map Unit Name: Chabeneau-Annala					
Are climatic / hydrologic conditions on the site typ	•	•			
	-			aa ( Na	
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology			n any answers in Remark		
SUMMARY OF FINDINGS – Attach si	te map showing sampli	ing point locations,	transects, importa	nt features, etc.	
Hydrophytic Vegetation Present? Yes _	110	the Sampled Area			
	No/ wi	thin a Wetland?	Yes No	<u>✓</u>	
Wetland Hydrology Present? Yes _		yes, optional Wetland Site	ID:		
Remarks: (Explain alternative procedures here The upland sample point is locat shared with wetland wird036s.	or in a separate report.) ed within a forest do	minated by conife	rs. The upland s	ample point is	
HYDROLOGY					
Wetland Hydrology Indicators:		Seco	ondary Indicators (minimu	um of two required)	
Primary Indicators (minimum of one is required;	check all that apply)				
Surface Water (A1)	Water-Stained Leaves (B		Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	!	Dry-Season Water Table	(C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (0		Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres of		Saturation Visible on Aer		
Drift Deposits (B3)	Presence of Reduced Iro		Stunted or Stressed Plan		
Algal Mat or Crust (B4)	Recent Iron Reduction in				
Iron Deposits (B5)	Thin Muck Surface (C7)	<del></del>	Shallow Aquitard (D3)	(D.4)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark		Microtopographic Relief (		
Sparsely Vegetated Concave Surface (B8) Field Observations:		<u></u> '	FAC-Neutral Test (D5)		
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):		logy Present? Yes	No <u>√</u>	
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previou	is inspections), if available	:		
Remarks:					
No wetland hydrology indicators	were observed.				

<b>VEGETATION</b> – Use scientific names of plants.				Sampling Point: <u>wird035_u</u>
Tree Stratum (Plot size: 30' )	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. <u>Abies balsamea</u>	75.0	Υ	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:1(A)
2. <u>Prunus serotina</u>	2.0	N	<u>FACU</u>	Total Number of Dominant
3		-		Species Across All Strata:3(B)
4				Percent of Dominant Species
5		-		That Are OBL, FACW, or FAC:33.33 (A/B)
6	·	-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_77.0_	= Total Co	ver	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0 x 2 = 0 FAC species 75 x 3 = 225
1. <u>Diervilla Ionicera</u>				FACU species
2				UPL species x 5 =0
3				Column Totals: <u>87</u> (A) <u>273</u> (B)
4				Prevalence Index = B/A = 3.14
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7		= Total Co		2 - Dominance Test is >50%
Harb Christian (Diet size)		= Total Co	ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Brachyelytrum erectum	5.0	~	EACH	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>				Problematic Hydrophytic Vegetation¹ (Explain)
3				
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10		-		Herb – All herbaceous (non-woody) plants, regardless
11		-		of size, and woody plants less than 3.28 ft tall.
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	10.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
1				
1				Hydrophytic Vegetation
1				Hydrophytic Vegetation Present?  Yes No/_

SOIL Sampling Point: wird035\_u

			o the dep	th needed to docun			or confirm	the absence of	indicators.)
Depth (inches)	Color (mc	atrix oist)	%	Color (moist)	Features     %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-18	10YR 4		100					SI	
		., 0	100						
					-				
		D=Deple	etion, RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil							_		r Problematic Hydric Soils <sup>3</sup> :
Histosol	I (A1) pipedon (A2)			Polyvalue Below MLRA 149B)		(S8) ( <b>LR</b> I	RR,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> ) airie Redox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)			Thin Dark Surfa		RR R, M	_RA 149B)		cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)			Loamy Mucky M			, <b>L</b> )		face (S7) (LRR K, L)
	d Layers (A5) d Below Dark	Surface	(Δ11)	<ul><li>Loamy Gleyed I</li><li>Depleted Matrix</li></ul>		)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
	ark Surface (A		, (, (, 1, 1,	Redox Dark Sui					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral			Depleted Dark S		7)			t Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix ( Redox (S5)	(S4)		Redox Depress	ons (F8)				odic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) ent Material (F21)
	d Matrix (S6)								illow Dark Surface (TF12)
	ırface (S7) (LR	RRR, M	LRA 1491	3)					rplain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic v	/egetati	on and we	etland hydrology mus	t be prese	ent. unless	disturbed	or problematic.	
	Layer (if obse	_							
Type:									
Depth (in	iches):							Hydric Soil Pr	resent? Yes No/
Remarks:				.1 1				•	
ivo nyari	c soil indi	cators	s were	observed.					



wird035\_u\_E



wird035\_u\_N

Project/Site: Line 5 Relocation Project	City/Cou	nty: <u>Iron</u>	<	Sampling Date: <u>2019-10-01</u>	
Applicant/Owner: Enbridge					
Investigator(s): AGG/OTG					
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Cathro muck, drain.					
Are climatic / hydrologic conditions on the site typic		•			
	•				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problematic	? (If needed, e	xplain any answers	in Remarks.)	
SUMMARY OF FINDINGS – Attach sit	e map showing sampl	ing point locatio	ns, transects,	important features, etc.	
Hydric Soil Present? Yes	√ No w	the Sampled Area ithin a Wetland?			
Wetland Hydrology Present? Yes  Remarks: (Explain alternative procedures here of	✓ NO   If	yes, optional Wetland	Site ID:		
the wetland. Outside of the corrid shares an upland sample point w			in the wetlar	nd. This feature	
HYDROLOGY					
Wetland Hydrology Indicators:			-	ors (minimum of two required)	
Primary Indicators (minimum of one is required; of			Surface Soil C		
Surface Water (A1)	Water-Stained Leaves (E	39)	Drainage Patterns (B10)		
✓ High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line		
	Marl Deposits (B15)	C1)	Dry-Season W		
Sediment Deposits (B2)	<ul><li>Hydrogen Sulfide Odor (</li><li>Oxidized Rhizospheres of</li></ul>		Crayfish Burro	ible on Aerial Imagery (C9)	
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iro	-	Stunted or Stre	= : : :	
Algal Mat or Crust (B4)	Recent Iron Reduction in		✓ Geomorphic P		
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	ks)	Microtopograp		
Sparsely Vegetated Concave Surface (B8)		•	FAC-Neutral T		
Field Observations:					
Surface Water Present? Yes No _	✓ Depth (inches):				
Water Table Present? Yes _ ✓ No _	Depth (inches): 8				
	Depth (inches): 6	Wetland H	ydrology Present	? Yes <u>√</u> No	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previou	us inspections). if ava	ilable:		
Zaconisa reastraca Zana (en eam gaage, menner	g, acriai priotoc, protic	aoop ooo,, a.va			
The wetland hydrology regime is	saturated.				

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Cov	/er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species <u>67.0</u> x 2 = <u>134.0</u>
1. <u>Alnus incana</u>	50.0	<u>Y</u>	<u>FACW</u>	FAC species x 3 = FACU species x 4 = 0.0
2				UPL species
3				Column Totals: <u>140.0</u> (A) <u>207.0</u> (B)
4				
5				Prevalence Index = B/A =1.5
6			-	Hydrophytic Vegetation Indicators:
7			-	∠ 1 - Rapid Test for Hydrophytic Vegetation     ∠ 2 - Dominance Test is >50%
	50.0	= Total Cov	/er	✓ 2 Portination Feet to 2007/ ✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	50.0	V	ODI	4 - Morphological Adaptations (Provide supporting
Calamagrostis canadensis     Sairava battarianua		<u>Y</u> N	OBL OBL	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. Scirpus hattorianus			FACW	Troblematic Hydrophytic Vegetation (Explain)
3. Solidago gigantea		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
<ul><li>4. <u>Symphyotrichum puniceum</u></li><li>5. <u>Agrostis gigantea</u></li></ul>		N N	FACW	be present, unless disturbed or problematic.
		N	OBL	Definitions of Vegetation Strata:
6. <u>Persicaria sagittata</u> 7. <u>Doellingeria umbellata</u>			FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
8. <u>Galium asprellum</u>			OBL	at breast height (DBH), regardless of height.
9			ODL	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10	_	-	-	Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	90.0	= Total Cov	/er	noight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
Describe. (Include whate growth are horse or an appropriate		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s The sample plot is located within an alc		et domi	nated b	y speckled alder.
			•	

Sampling Point: wird036s\_w

SOIL Sampling Point: wird036s\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix	0/	0.1		x Features		12	Tautona	Days and a
(inches)	Color (moist)	<u>%</u>	Color (m	10IST)	%	Type'	_Loc <sup>2</sup>	Texture	<u>Remarks</u>
0-6	10YR 3/2	100			·			CL	
6-20	<u>10YR 4/2</u>	_95_	<u>10YR</u>	5/6	5	C	_M_	CL	Prominent redox
					· .				
						-			
					·	-			
1- 0.0								21 (1	BL B. Jill MAAA
Hydric Soil	oncentration, D=Depl	etion, RM	=Reduced N	latrix, MS	s=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyva	lue Belov	w Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			RA 149B)					Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)				ıce (S9) ( <b>L</b> ⁄lineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
	d Layers (A5)			-	Matrix (F2		., <b>L</b> )		alue Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Deplet	ed Matrix	(F3)	,		Thin [	Dark Surface (S9) (LRR K, L)
	ark Surface (A12)				rface (F6)	>			Manganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)				Surface (F ions (F8)	7)			nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)				( )				Parent Material (F21)
	d Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 1491	3)					Other	(Explain in Remarks)
<sup>3</sup> Indicators of	of hydrophytic vegetat	ion and we	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	ic.
Restrictive	Layer (if observed):								
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks:									
A deplet	ed matrix with	redox	was obs	ervea					



wird036s\_w\_E



wird036s\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	AGG/OTG		
File #:	Date of visit(s):		
wird036	10/01/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-001W-06</u>	North Central Forest		
	North Central Forest		
Lat: 46.412726 Long: -90.544591	Watershed:		
	LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
,			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	S3K, T3/5K, T3/S3K, S3/	/E2K, S3/E2H	
5373A Cathro muck, 5543B Chabeneau-Annalake complex	Wetland Type(s):		
·	PSS - alder thicket		
Field Verified:	l oo alaar iillar	·Ot	
Series not verified. Soils were clay loam	Wetland Size:	Wetland Area Impacted	
throughout the profile.	1.94	1.94	
tilloughout the profile.		1.07	
	Vegetation:	Accorintian (a)	
Hydrology:	Plant Community D	• • •	
. •		n alder thicket dominated by	
The hydrologic regime is saturated with recharge	Alnus incana, wi	th ground cover dominated by	
hydrology.	Calamagrostis c	anadensis.	
	- cananina grootio o		

SITE MAP		

### SECTION 1: Functional Value Assessment

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N Lot or adjacent to RED FLAG areas 6 N N N Suspens or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site With Wildlife Habitat 1 N Y Wetland and contiguous habitat >10 acres 2 N N 3 or more strata present (> 10% cover) 3 N N Within or adjacent to habitat cortion or established wildlife habitat area 4 N N 100 m buffer – natural land cover \$50% (south) 75% (north) infact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephermeral pond with water present ≥ 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 Y Y P Provides habitat acrace in the area (urban, agricultural, etc.) 113 N N Wetland is connected or contiguous with perennial stream or lake 114 N N V Seasonally exposed mudflats present 115 N N N N N N N N N N N N N N N N N N	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A	3	Υ	Υ	
S	4		N	
S		- ' '	- 11	
6 N N Supports or provides habitat for endangered, threatened or special concern species 7	5	N	N	
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	
Wildlife Habitat		IN	IN	
1 N Y Wetland and contiguous habitat >10 acres 2 N N N S or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority twomship 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 Y Y Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring Shorteline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashry hydrology 5 Y Y Point or non-point source inflow Water Quality Protection 1 N N Sepasian wetland, constricted outlet, has through-flow or is adjacent to a stream Water Quality Protection 1 Y Y Basin wetland constricted outlet, has through-flow or is adjacent to a stream Water Quality Protection 5 Y Y Dense, persistent vegetation 4 N N N Wetland to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection				
2		N.I.		
3				
4 N N N 100 m buffer – natural land cover >50%(south) 75% (north) intact 5 N N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 11 N N Seasonally exposed mudflats present 11 N N N Wetland is connected or contiguous with perennial stream or lake 11 N N N Wetland is connected or contiguous with perennial stream or lake 11 N N N Wetland is connected or contiguous with perennial stream or lake 12 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 13 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 14 Y Y Vegetation is inundated in spring 15 Noreline Protection 16 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 17 N N water levels or high flows – if no, not applicable 18 N N Seain wetland, constricted outlet, has through-flow or is adjacent to a stream 19 Y Y Basis wetland, constricted outlet, has through-flow or is adjacent to a stream 20 Y Y Water flow through wetland is NOT channelized 21 N N Impervious surfaces cover >10% of land surface within the watershed 22 Y Y Y Basis wetland, constricted outlet, has through-flow or is adjacent to a stream 23 Y Y P Dense, persistent vegetation 24 N N Impervious surfaces cover >10% of land surface within the watershed 25 Y Y Y Basin wetland or constricted outlet 26 N N N Impervious surfaces cover >10% of land surface within the watershed 27 N N Wetland solos acreased the from agricult				
5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 Y Y Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 P Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Astural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Densely rooted emergent or woody vegetation 5 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 2 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 3 Y Y Densely rooted emergent or woody vegetation 5 Y Y Water flow through wetland is NOT channelized 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Method Standard Constricted outlet, has through-flow or is adjacent to a stream 9 Y Y Dense, persistent vegetation 1 Y Y Point or non-point source inflow 1 Y Y Point or non-point source inflow 2 Y Y Basin wetland or constricted outlet 3 Y Y Dense, persistent vegetation 4 N N Impervious surfaces cover >10% of land surface within the watershed 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 Water Quality Protection 1 Y Y Provides substantial s	-			
Interspersion of habital structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.)   Record   Variable   Vari				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			Occurs in a Joint Venture priority township
8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 Y Y Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quilty Protection 1 Y Y Dense, persistent vegetation 5 Y Y Dense, persistent vegetation 6 N N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Vegetated wetland associated with a lake or stream 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 8 N N Discharge to surface water 9 N N N Stormwater or surface water 9 N N N Stormwater or surface water 1 N N Seprings, seeps or indicators of gro	6	Y	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species  9 Y Y Ephemeral pond with water present ≥ 45 days  10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed mudflats present  12 Y Y Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 N N Wetland is connected or contiguous with perennial stream or lake  2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 Y Y Vegetation is inundated in spring  SP Shoreline Protection  1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  3 Y Y Densely rooted emergent or woody vegetation  ST Storm and Floodwater Storage  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Water flow through wetland is NOT channelized  3 Y Y Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 Y Y Point or non-point source inflow  6 N N Impervious surfaces cover >10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water flow through wetland is NOT channelized  4 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  8 N N Dense, persistent vegetation  9 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  8 N N Discharge to surface water from agricultural land is major hydrology source  9 N N N Stormwater or surface water from agricultural land is major hydrology source  1 N N Sp	7	N		
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6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	4	N	N	
7 N N Stormwater or surface water from agricultural land is major hydrology source  8 Y Y Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	5	Υ	Υ	Dense, persistent vegetation
7 N N Stormwater or surface water from agricultural land is major hydrology source  8 Y Y Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	$\overline{}$		1	
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic			- ' '	
2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\vdash$	NI.	NI NI	
3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
	-			
5   N   N   Wetland is within a wellhead protection area				
	5	N	N	Wetland is within a wellhead protection area

		nments (Refer to Section 1 numbers)
	outside of the corridor ff from adjacent loggi	r the wetland turns into a shallow marsh with standing water present throughout ing road
Wi	ildlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Wi	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Birds
	Υ	Amphibians
	Υ	Reptiles
		atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
Obscived	Y	Aquatic invertebrates

## **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Alnus incana			PSS	Abundant
Calamagrostis canadensis			PSS	Abundant
Scirpus hattorianus			PSS	Common
Solidago gigantea			PSS	Common
Symphyotrichum puniceum			PSS	Common
Agrostis gigantea			PSS	Uncommon
Persicaria sagittata			PSS	Uncommon
Doellingeria umbellata			PSS	Uncommon
Galium asprellum			PSS	Rare

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is dominated by Alnus incana and weedy species associated with roadsides.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		М	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
Х	Х	Х	N/I	С	Removal of tree or shrub strata – logging,
X	^	^	M		unprescribed fire
Х	Х		М	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is impacted by historic logging and an adjacent logging road with associated runoff.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Weedy species, disturbed
Human Use Values	Located on county land, difficult to access, unlikely to be
Wildlife Habitat	Variety of habitat types
Fish and Aquatic Life Habitat	Standing water throughout the wetland
Shoreline Protection	N/A
Flood and Stormwater Storage	Large basin with standing water
Water Quality Protection	See above
Groundwater Processes	No signs of groundwater present

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Iror	) Sam	pling Date: <u>2019-10-01</u>	
Applicant/Owner: Enbridge		State: WI Sa	mpling Point: wird035 u	
Investigator(s): AGG/OTG	Section, Township	, Range: <u>045N-001W-06</u>		
Landform (hillslope, terrace, etc.): Side slope		-		
Subregion (LRR or MLRA): Northcentral Forests La				
Soil Map Unit Name: Chabeneau-Annalake				
Are climatic / hydrologic conditions on the site typical	• • •	•		
Are Vegetation, Soil, or Hydrology	·			
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects, imp	portant features, etc.	
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam	pled Area		
	No ✓ within a W	etland? Yes N	lo <u>√</u>	
		nal Wetland Site ID:		
Remarks: (Explain alternative procedures here or i	n a separate report.)	d by conifore. The unles	ad aamala naintia	
The upland sample point is located shared with wetland wird036s.	a within a forest dominate	a by conners. The uplar	id sample point is	
Shared with wettand wirdosos.				
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indicators (r	minimum of two required)	
Primary Indicators (minimum of one is required; che	• • • •	<del></del> _		
	Water-Stained Leaves (B9)	Drainage Patterns (B10)		
	_ Aquatic Fauna (B13)	Moss Trim Lines (B16)		
	_ Marl Deposits (B15)	Dry-Season Water		
	<ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on Living</li></ul>	Crayfish Burrows (	on Aerial Imagery (C9)	
	_ Presence of Reduced Iron (C4)			
1 <del>-</del> · · · · · · · -	Recent Iron Reduction in Tilled So			
	Thin Muck Surface (C7)	Shallow Aquitard (I		
	_ Other (Explain in Remarks)	Silailow Aquitaru (D3) Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (	` '	
Field Observations:			()	
Surface Water Present? Yes No✓	Depth (inches):			
	Depth (inches):			
	Depth (inches):	Wetland Hydrology Present? Y	'es No <u>√</u>	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	a well perial photos previous inspec	tions) if available:		
Describe Recorded Data (stream gauge, monitoring	g well, aeriai priotos, previous irispec	Jons, ii avaliable.		
Remarks:				
No wetland hydrology indicators w	ere observed.			

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute		Indicator	Dominance Test worksheet:
		Species?		Number of Dominant Species
1. Abies balsamea			<u>FAC</u>	That Are OBL, FACW, or FAC:1 (A)
2. <u>Prunus serotina</u>				Total Number of Dominant Species Across All Strata: 3 (B)
3				Species Across All Strata:3(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
5				That Ale OBL, FACW, OF FAC (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	77.0	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 = 0
1. <u>Diervilla lonicera</u>	2.0	N	<u>NI</u>	FACULTURE
2				FACU species x 4 = 48 UPL species 0 x 5 = 0
3				Column Totals: <u>87</u> (A) <u>273</u> (B)
4				
5				Prevalence Index = B/A = 3.14
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. Brachyelytrum erectum	5.0	Y	<u>FACU</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Pteridium aquilinum</u>	5.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				1
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.				
6.				Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')	10.0	- 10tai 00	VCI	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No✓
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
The upland sample point is located in a		dominat	ed by ba	alsam fir.

Sampling Point: wird035 u

SOIL Sampling Point: wird035\_u

			to the dep	th needed to docun			or confirm	the absence of	indicators.)
Depth (inches)	Color (m	//atrix oist)	%	Color (moist)	<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-18	10YR		100					SI	
	10111	., 0	100						
									_
									·
									_
<sup>1</sup> Type: C=C Hydric Soil		D=Depl	letion, RM	=Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.  r Problematic Hydric Soils <sup>3</sup> :
Histosol				Polyvalue Below	v Surface	(S8) (I RI	R.R.		k (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			MLRA 149B)		(00) (=111	,		airie Redox (A16) ( <b>LRR K, L, R</b> )
	listic (A3)	1)		Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4 d Layers (A5)			Loamy Mucky M Loamy Gleyed I			, L)		ace (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
	d Below Dark		e (A11)	Depleted Matrix	(F3)	,			Surface (S9) (LRR K, L)
	ark Surface (	,		Redox Dark Sui					ganese Masses (F12) (LRR K, L, R)
	Mucky Minera Gleyed Matrix			Depleted Dark S Redox Depress		7)			Floodplain Soils (F19) (MLRA 149B) odic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	(04)		Redox Depress	0113 (1 0)				ent Material (F21)
	d Matrix (S6)								llow Dark Surface (TF12)
Dark Su	urface (S7) (L	RR R, N	ILRA 1491	3)				Other (Ex	plain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic	vegetat	ion and we	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if obs	erved):							
Type:									
	nches):							Hydric Soil Pro	esent? Yes No/
Remarks: No hydri	c soil ind	icator	s were	observed.					



wird035\_u\_E



wird035\_u\_N

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: <u>Iron</u>		Sampling Date: <u>2019-10-01</u>
· · · · · · · · · · · · · · · · · · ·			Sampling Point: wirb057f_w
Investigator(s): SAM/KDF			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Chabeneau-Annalake cor			
Are climatic / hydrologic conditions on the site typical for this	•	•	
Are Vegetation, Soil, or Hydrologys			
Are Vegetation, Soil, or Hydrology n			
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	t locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u> N	o Is the Samp	led Area	
Hydric Soil Present? Yes ✓ N		tland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ N		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sep		dor	
Small wet forest community that just en	ters the survey come	JOI.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all t	hat apply)	Surface Soil C	racks (B6)
Surface Water (A1) Water	er-Stained Leaves (B9)	Drainage Patte	erns (B10)
	atic Fauna (B13)	Moss Trim Line	
	Deposits (B15)	· ·	ater Table (C2)
	rogen Sulfide Odor (C1)	Crayfish Burro	
	lized Rhizospheres on Living R		ible on Aerial Imagery (C9)
1 · · · · · · · · · · · · · · · · · · ·	sence of Reduced Iron (C4)		essed Plants (D1)
	ent Iron Reduction in Tilled Soil		
	Muck Surface (C7)	Shallow Aquita	
	er (Explain in Remarks)	Microtopograp _∕_ FAC-Neutral T	· ·
Sparsely Vegetated Concave Surface (B8)  Field Observations:			esi (D3)
	oth (inches):		
	oth (inches):		
		Wetland Hydrology Present	? Yes ✓ No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, a	aerial photos, previous inspection	ons), if available:	
Remarks:			
Feature with seasonal saturation. Smal	I shallow depressions	s present.	

**VEGETATION** – Use scientific names of plants.

Absolute % Cover 50.0	Species?	FAC	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 6.0 (A)  Total Number of Dominant Species Across All Strata: 6.0 (B)
 			That Are OBL, FACW, or FAC: 6.0 (A)  Total Number of Dominant
		- <del> </del>	Percent of Dominant Species
			That Are OBL, FACW, or FAC: 100.0 (A/B)
			Prevalence Index worksheet:
- <del> </del>			Total % Cover of: Multiply by:
50.0	= Total Co	over	OBL species 10.0 x1 = 10.0
			FACW species <u>45.0</u> x 2 = <u>90.0</u> FAC species <u>75.0</u> x 3 = <u>225.0</u>
			FACU species
_ <u>10.0</u>	Y	<u>FACW</u>	UPL species
			Column Totals: 130.0 (A) 325.0 (B)
			Prevalence Index = B/A = 2.5
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			✓ 2 - Dominance Test is >50%
35.0	= Total Co	over	3 - Prevalence Index is ≤3.0 <sup>1</sup>
25.0	Υ	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation¹ (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
45.0	= Total Co	over	height.
			Hydrophytic Vegetation
		over	Present? Yes _ ✓ No
sheet.) n a cano	py of a		ense shrub cover of winterberry and
		25.0 Y 10.0 Y  35.0 = Total Co  25.0 Y 10.0 Y  10.0 Y  45.0 = Total Co	

SOIL Sampling Point: wirb057f\_w

Profile Desc	ription: (Describe to	the depth n	eeded to docum	ent the in	dicator o	or confirm	the absence of	of indicators.)
Depth	Matrix			Features		. 2		
(inches)	Color (moist)	_%( 	Color (moist)		Type'	Loc <sup>2</sup>	Texture	Remarks
	ncentration, D=Depleti	on, RM=Red	duced Matrix, MS	=Masked	Sand Gra	uins.		PL=Pore Lining, M=Matrix.
Black His Hydrogei Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur  3Indicators of Restrictive L Type: be	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) Below Dark Surface (Ark Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, MLF hydrophytic vegetation ayer (if observed): drock/cobble	A11)    RA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surface Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surface Depleted Dark S Redox Depression d hydrology must	ce (S9) ( <b>LI</b> ineral (F1) flatrix (F2) (F3) face (F6) surface (F7 ons (F8)	RR R, ML ) (LRR K,	.RA 149B) L)	2 cm M Coast F 5 cm M Dark Su Polyval Thin Da Iron-Ma Piedmo Mesic S Red Pa Very Sh Other (I	for Problematic Hydric Soils³:  uck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  ucky Peat or Peat (S3) (LRR K, L, R)  urface (S7) (LRR K, L)  ue Below Surface (S8) (LRR K, L)  ark Surface (S9) (LRR K, L)  anganese Masses (F12) (LRR K, L, R)  ont Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  arent Material (F21)  nallow Dark Surface (TF12)  Explain in Remarks)  Present? Yes No
	dig due to bed vegetation.	Irock/col	oble. Soils a	are ass	umed	hydric l	oased on	landscape position and



wirb057f\_w\_S



wirb057f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): KDF/SAM		
File #: wirb057	Date of visit(s): 10/01/2019		
Location: PLSS: 045N-001W-06	Ecological Landsca North Central Forest	ape:	
Lat: 46.41272 Long: -90.536877	Watershed: LS13, Tyler Forks		
County: Iron Town/City/Village: Anderson town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
5543B Chabeneau-Annalake complex  Field Verified:	Wetland Type(s): PFO - hardwood forest		
		T	
Series not verified. Unable to dig due to the presence of bedrock/cobble.	Wetland Size: 0.17	Wetland Area Impacted 0.17	
Hydrology:	Vegetation: Plant Community D		
The hydrologic regime is seasonally saturated with recharge hydrology.	verticillata and Fraxi dominate herbaceou	nated by Populus tremuloides. Ilex nus nigra dominate the shrubs. The us vegetation is Osmunda claytonia, and Calamagrostis canadensis.	

SITE MAP		

### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Use Values: recreation, culture, education, science, natural scenic beauty   1   N   Y   Used for recreation (funting, biding, hiking, etc.). List: Birding   2   N   N   Used for educational or scientific purposes   N   N   Used for educational or scientific purposes   N   N   Y   Visually or physically ocessible to public   N   Y   Visually or physically ocessible to public   N   Y   Visually or physically ocessible to public   N   N   Visually or physically ocessible to public   N   N   Visually or physically ocessible to public   N   Visually ocessible   N   Visually ocessible to public   N   Visually ocessible   N   Visually ocessibl				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 N Y Y Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Suspens or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Widtlife Habitat 1 Y Wetland and contiguous habitat >10 acres 2 Y Y So more strata present (-10% cover) 3 N N Within or adjacent to habitat cornor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50%(south) 75% (north) inlact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh.shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephermeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat acrea in the area (urban, agricultural, etc.) 113 N N Vettadial sic consected or configuous with perennial stream or lake 114 N N V Standing water provides habitat for amphibians and aquatic invertebrates 115 N N N Vettadial sic consected or configuous with perennial stream or lake 116 N N N N N N N N N N N N N N N N N N	HU	Y/N	Potential	
3	1	N	Υ	
N	2	N	N	Used for educational or scientific purposes
S	3	Υ	Υ	Visually or physically accessible to public
N N   List:	4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N   List:				In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
Well	7			
1	WH			
2	h	Υ	Υ	Wetland and contiguous habitat >10 acres
3			1	
4	$\overline{}$			
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5 N N Wetland is within a wellhead protection area		N	N	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) ST-3: moderately dense shrub vegetation but sparse herbaceous vegetation ST-5: located alongside a two-track dirt road WH-10: herpetofauna may use habitat due to proximity to standing water within nearby wetland FA-2: small pool of water may be present after precipitation events WQ-2: shallow depression wetland Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Pileated woodpecker Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	e Seminarity medginty (energy									
	Low	Medium	High	Exceptional						
Invasive species cover	> 50%	20-50%	10-20%	<10%						
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented						
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)						
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare						
FQI (optional)	<13	13-23	23-32	>32						
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7						

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Abundant
llex verticillata			PFO	Common
Fraxinus nigra			PFO	Common
Osmunda claytoniana			PFO	Common
Rubus pubescens			PFO	Common
Calamagrostis canadensis			PFO	Common

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of the plant community with no observed invasive species. There is low diversity across all strata.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
. ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	U	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		Н		Removal of herbaceous stratum – mowing,
X	^		П	С	grading, earthworms, etc.
Х	Х	Х	М	С	Removal of tree or shrub strata – logging,
^	^	^	IVI	C	unprescribed fire
	X		M	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is impacted by earthworm activity removing herbaceous vegetation and resulting in some bare patches
of vegetation. A two-track trail runs alongside the wetland, potentially proving runoff inputs to the wetland. Previous
logging likely occurred evidenced by young growth trees.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE									
Γ	Low	Medium	High	Exceptional	NA					
Floristic Integrity	<b>√</b>									
Human Use Values		<b>/</b>								
Wildlife Habitat		<b>/</b>								
Fish and Aquatic Life Habitat	<b>√</b>									
Shoreline Protection					<b>1</b>					
Flood and Stormwater Storage	<b>√</b>									
Water Quality Protection	<b>√</b>									
Groundwater Processes	<b>√</b>									

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, no invasive species, low diversity
Human Use Values	Public land, accessible by two-track trail
Wildlife Habitat	Adjacent to large habitat block including potential standing water within the wetland, multiple strata represented
Fish and Aquatic Life Habitat	Potential standing water may support aquatic invertebrates
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow, closed basin wetland, moderate vegetation cover
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocat	ion Proiect	City/C	county: <u>Iron</u>	S	ampling Date: 2019-10-01		
Applicant/Owner: Enbridge	-						
Investigator(s): SAM/KDF					· -		
Landform (hillslope, terrace, etc.):							
Subregion (LRR or MLRA): Northo							
Soil Map Unit Name: Chabene							
		•					
Are climatic / hydrologic conditions		-					
Are Vegetation, Soil							
Are Vegetation, Soil	_, or Hydrology	naturally problema	atic? (If needed	d, explain any answers	in Remarks.)		
SUMMARY OF FINDINGS -	<ul> <li>Attach site m</li> </ul>	nap showing sam	pling point loca	tions, transects, i	mportant features, etc.		
Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Are	a			
Hydric Soil Present?		No	within a Wetland?	Yes	No <u>√</u>		
Wetland Hydrology Present?			If yes, optional Wetla	and Site ID:			
Remarks: (Explain alternative pro Mesic hardwood forest	ocedures here or in	a separate report.)					
HYDROLOGY					J		
Wetland Hydrology Indicators:				Secondary Indicator	rs (minimum of two required)		
Primary Indicators (minimum of o	ne is required; chec	k all that apply)		Surface Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave	s (B9)	Drainage Patterns (B10)			
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrov			
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizosphero Presence of Reduced	-				
Algal Mat or Crust (B4)		Recent Iron Reductio					
Iron Deposits (B5)		Thin Muck Surface (C		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)			
Inundation Visible on Aerial I		Other (Explain in Rer		Microtopographic Relief (D4)			
Sparsely Vegetated Concave		` .	,	FAC-Neutral Te			
Field Observations:							
Surface Water Present? Yes	es No <u></u> ✓	Depth (inches):					
Water Table Present? Ye	es No <u></u> ✓	Depth (inches):					
	es No	Depth (inches):	Wetland	d Hydrology Present?	Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream	gauge, monitoring v	well, aerial photos, pre	vious inspections), if a	available:			
,			, ,				
Remarks:							
No obvious signs of we	etland hydrolo	oav.					
	,	3)					

### **VEGETATION** – Use scientific names of plants.

<b>EGETATION</b> – Use scientific names of plants.				Sampling Point: wirb057 u
Tree Stratum (Plot size:30')		Dominant Species?		Dominance Test worksheet:
1. <u>Populus tremuloides</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2				Total Number of Dominant Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.6666666666666666666666666666666666
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species10.0 x 2 =20.0
1. Corylus cornuta	20.0	Y	FACU	FAC species <u>115.0</u> x 3 = <u>345.0</u>
2. <u>Acer rubrum</u>			FAC	FACU species 60.0 x 4 = 240.0
3. <u>Ilex verticillata</u>				UPL species $0.0 \times 5 = 0.0$
4.				Column Totals: <u>185.0</u> (A) <u>605.0</u> (B)
5.				Prevalence Index = B/A =3.3
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )				3 - Prevalence Index is ≤3.0 <sup>1</sup>
Cornus canadensis	50.0	Υ	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Mitchella repens		Y	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Diervilla Ionicera</u>		N	NI	
4. Pteridium aquilinum		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Prunus serotina</u>			FACU	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	90.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			·
Mix of partridgeberry, bracken fern, and with beaked hazel with winterberry and				und layer. The shrub layer is dense

SOIL Sampling Point: wirb057\_u

Profile Desc	cription: (De	escribe	to the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Color (m	Matrix	%	Color (r		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-5	10YR		100	1) 10100	Holoty		Турс		SCL	Komano	
5-6	10YR			5YR	4/6	5	C	NA		Prominent redox	
<u> </u>	1011	<u> </u>	_30_	<u> </u>	7/0				OOL	1 TOTHINETIC TEGOX	
	-		-			-					
			-			-					
			-			-					
1									2		
'Type: C=C  Hydric Soil	oncentration,	D=Depl	etion, RM:	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :	
Histosol				Polyva	alue Belov	v Surface (	(S8) ( <b>LRI</b>	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)			MLI	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)	
	listic (A3) en Sulfide (A4	1)				ce (S9) ( <b>L</b> 1ineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5				-	Matrix (F2)		·, <b>L</b> )		alue Below Surface (S8) (LRR K, L)	
	d Below Dark		e (A11)		ted Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface ( Mucky Minera	,			Dark Sui	face (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix				Depress		' )		Pledmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5)								Red Parent Material (F21)		
	d Matrix (S6) urface (S7) ( <b>L</b>	RR R, N	ILRA 1491	3)					<ul><li>Very Shallow Dark Surface (TF12)</li><li>Other (Explain in Remarks)</li></ul>		
	of hydrophytic	_		etland hydro	ology mus	t be prese	nt, unles	s disturbed o	or problemation	c.	
Type: be	Layer (if obs	servea):									
	ches): <u>6</u>								Hvdric Soil	I Present? Yes No/_	
Remarks:	iciles). <u>U</u>			<del></del>							
	o dig pas	st 6 in	ches. F	Redox o	bserve	ed betw	een 5	-6 inche	s, but un	able to conclusively say	
that the										,	



wirb057\_u\_E



wirb057\_u\_N

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Count	y: <u>Iron</u>	Sampling Date: <u>2019-10-0</u> 1			
Applicant/Owner: Enbridge		State	e: WI Sampling Point: wirb056f_w			
Investigator(s): SAM/KDF	Section, To	ownship, Range: 045N-	001W-06			
Landform (hillslope, terrace, etc.): Depression						
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.412787	Long: -90.535	.074 Datum: WGS84			
Soil Map Unit Name: Chabeneau-Annalak						
Are climatic / hydrologic conditions on the site typica		•				
	•					
Are Vegetation, Soil, or Hydrology _						
Are Vegetation, Soil, or Hydrology _			any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site	map showing samplir	ng point locations, tr	ansects, important features, etc.			
Hydrophytic Vegetation Present? Yes	/ No Is t	he Sampled Area				
	/ No with	hin a Wetland?	Yes No			
Wetland Hydrology Present? Yes		es, optional Wetland Site ID	D:			
Remarks: (Explain alternative procedures here or A wet forest community that just e definitely wetland.		ridor. Immediate a	area somewhat ecotonal but			
HYDROLOGY  Westland Hydrology Indicators:		Social	dary Indicators (minimum of two required)			
Wetland Hydrology Indicators:			dary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; ch		St				
	<ul><li>Water-Stained Leaves (B9</li><li>Aquatic Fauna (B13)</li></ul>		<ul><li> Drainage Patterns (B10)</li><li> Moss Trim Lines (B16)</li></ul>			
	Marl Deposits (B15)		ry-Season Water Table (C2)			
	Hydrogen Sulfide Odor (C		rayfish Burrows (C8)			
	Oxidized Rhizospheres on		aturation Visible on Aerial Imagery (C9)			
	Presence of Reduced Iron	• • • —	tunted or Stressed Plants (D1)			
	Recent Iron Reduction in 7		eomorphic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Sh	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	s) M	icrotopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		<u> </u>	AC-Neutral Test (D5)			
Field Observations:						
	Depth (inches):					
	/ Depth (inches):					
Saturation Present? Yes No (includes capillary fringe)	Depth (inches):	Wetland Hydrolo	ogy Present? Yes/ No			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous	s inspections), if available:				
Remarks:						
Depression basin with a seasonal	ly saturated hydrolog	gic regime.				

VEGETATION – Use scientific names of plants.				Sampling Point: wirb056f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides	45.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2. <i>Fraxinus nigra</i> 3			FACW	Total Number of Dominant Species Across All Strata: 3.0 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC:100.0 (A/B)
6			<u> </u>	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	55.0	= Total Co	ver	OBL species <u>20.0</u> x 1 = <u>20.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species 60.0 x 2 = 120.0
1				FAC species 65.0 x 3 = 195.0
2				FACU species 0.0 x 4 = 0.0
3				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: <u>145.0</u> (A) <u>335.0</u> (B)
5				Prevalence Index = B/A =2.3
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	· · · · · · · · · · · · · · · · · · ·	∠ 2 - Dominance Test is >50%
Harb Objections (Distriction F)	0.0	= Total Co	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. <u>Ilex verticillata</u>	50.0	Y	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Viburnum lentago</u>	20.0	Y	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Calamagrostis canadensis</u>	10.0	N	OBL	1
4. <u>Carex crinita</u>	_10.0_		OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	90.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3			<u> </u>	Hydrophytic
4				Vegetation
		= Total Co	· · · · · · · · · · · · · · · · · · ·	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate s		= 10(a) 00		
Somewhat wet forest dominated by asp		some	black as	h. Shrub layer is fairly dense with
winterberry and nannyberry. Ground law				•
	' '	,		, ,

SOIL Sampling Point: wirb056f\_w

Profile Desc	cription: (Describe t	o the dep	th needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (n		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-6	7.5YR 2.5/2	85	5YR	4/6	_5	С	<u>M</u>	SCL	Prominent redox	
0-6			<u>7.5YR</u>	5/4	_10	С	_M_	SCL		
6-20	7.5YR 2.5/3	100						SL		
-			-							
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Mucky Mineral (S1)  Sandy Redox (S5)  Stripped Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (B2)  Depleted Dark Surface (F8)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (F8)  Depleted Dark Surface (F8)  Redox Depressions (F8)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Camber Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)  All Caction: PL=Pore Lining, M=Matrix.  Location: PL=Pore Lining, M=Matrix.  Location: PL=Pore Lining, M=Matrix.  Indicators of Problematic Hydric Soils?  Location: PL=Pore Lining, M=Matrix.  Indicators of Problematic Hydric Soils?  Location: PL=Pore Lining, M=Matrix.  Indicators of Problematic Hydric Soils?  Location: PL=Pore Lining, M=Matrix.  2 cm Muck (A10) (LRR K, L, MLRA 149B)  Scoat Prairie Redox (A16) (LRR K, L, R)  Dark Surface (S9) (LRR K, L)  Dark Surface (S9) (LRR K, L)  Dark Surface (S9) (LRR K, L)						for Problematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  silue Below Surface (S8) (LRR K, L)  sark Surface (S9) (LRR K, L)  anganese Masses (F12) (LRR K, L, R)  ont Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  arent Material (F21)  challow Dark Surface (TF12)  (Explain in Remarks)				
Type:	Layer (if observed):									
Depth (in	ches):							Hydric Soil Present? Yes ✓ No		
Remarks: Soils with	h redox in the f	first 6 i	nches. S	Soil sa	mpled	near t	he wetla	and bound	dary.	



wirb056f\_w\_E



wirb056f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/SAM			
File #: wirb056	Date of visit(s): 10/01/2019			
Location: PLSS: 045N-001W-06	Ecological Landscape:  North Central Forest			
Lat: 46.41284 Long: -90.535105	Watershed: LS13, Tyler Forks			
County: Iron Town/City/Village: Anderson town				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
5543B Chabeneau-Annalake complex Field Verified:	Wetland Type(s): PFO - hardwood swamp			
Series not verified. Soils were sandy clay loam above sandy loam.	Wetland Size: Wetland Area Impacted 0.04 0.04			
•	Vegetation: Plant Community Description(s):			
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.	The canopy is dominated by Populus tremuloides and Fraxinus nigra. The dominant shrubs are llex verticillata and Viburnum lentago. Calamagrostis canadensis and Carex crinita dominate the sparse herbaceous vegetation.			

SITE MAP		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Birding
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- ' '		In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	Ν	N	water levels or high flows – if no, not applicable
3	Ν	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	Υ	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	IN	Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4		_	Vegetated wetland associated with a lake or stream
-	N	N	
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ν	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	- 13		The second second present with the second se

Section 1 Comments (Refer to Section 1 numbers) ST-3: shrub vegetation is dense, herbaceous vegetation is sparse WH-10: potential water pools present after precipitation events HU-3, ST-5: located on public land alongside a two-track trail WQ-1: closed basin wetland with dense shrub vegetation Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Common
Fraxinus nigra			PFO	Common
llex verticillata			PFO	Abundant
Viburnum lentago			PFO	Common
Calamagrostis candensis			PFO	Common
Carex crinita			PFO	Common

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of the plant community and comprised of native species, with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	U	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		Н		Removal of herbaceous stratum – mowing,
X	^		П	С	grading, earthworms, etc.
Х	Х	Х	М	U	Removal of tree or shrub strata – logging,
^	^	^	IVI	U	unprescribed fire
	X		M	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is impacted by earthworm activity removing herbaceous vegetation and resulting in bare patches of
vegetation. A two-track trail runs alongside the wetland. Previous logging likely occurred evidenced by young growth
trees.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity		<b>✓</b>						
Human Use Values		<b>✓</b>						
Wildlife Habitat		<b>√</b>						
Fish and Aquatic Life Habitat	<b>√</b>							
Shoreline Protection					<b>1</b>			
Flood and Stormwater Storage		<b>/</b>						
Water Quality Protection		<b>√</b>						
Groundwater Processes		<b>√</b>						

FUNCTION	RATIONALE				
Floristic Integrity	Native vegetation, no invasive species				
Human Use Values	Public land, accessible by two-track trail				
Wildlife Habitat	Multiple strata represented, part of larger habitat block				
Fish and Aquatic Life Habitat	Potential water pools after precipitation events				
Shoreline Protection	N/A				
Flood and Stormwater Storage	Closed basin wetland, densely vegetated				
Water Quality Protection	See above				
Groundwater Processes	Recharge hydrology				

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	n Project	City/C	County: <u>Iron</u>		Sampling Date: 2019-10-01	
Applicant/Owner: Enbridge	•				Sampling Point: wirb056 u	
Investigator(s): SAM/KDF						
Landform (hillslope, terrace, etc.): Ta				=		
Subregion (LRR or MLRA): Northcen						
Soil Map Unit Name: Chabeneau						
Are climatic / hydrologic conditions on		•	•	•		
Are Vegetation, Soil, o						
Are Vegetation, Soil, o				needed, explain any answe		
SUMMARY OF FINDINGS – A	Attach Site ir	iap snowing sam	ipling poin	t locations, transects	i, important features, etc.	
Hydrophytic Vegetation Present?		_ No	Is the Sampl		No. /	
Hydric Soil Present?		_ No <u> </u>	within a Wet		No/	
Wetland Hydrology Present?  Remarks: (Explain alternative proces		No/	If yes, option	al Wetland Site ID:		
Area is identified as a we	tland acco	rding to the NW	VI dataset	. However, the ove	erall landscape in the	
immediate area is rather		•			·	
shallow bedrock and no					•	
OHV trail.	ologi olgilo	or wonana nya	1010971711	oa lo additionally a	Sociated Will all	
OTTV train.						
HYDROLOGY				Cocondon India	otoro (minimum of two required)	
Wetland Hydrology Indicators:		Ir all that apply)		-	ators (minimum of two required)	
Primary Indicators (minimum of one i	•			Surface Soil		
Surface Water (A1) High Water Table (A2)		Water-Stained Leave Aquatic Fauna (B13)		Drainage Patterns (B10) Moss Trim Lines (B16)		
Saturation (A3)		Marl Deposits (B15)		Noss Hill Lilles (B16) Dry-Season Water Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)	Crayfish Bur		
Sediment Deposits (B2)		Oxidized Rhizosphere			isible on Aerial Imagery (C9)	
Drift Deposits (B3)		Presence of Reduced	_		Stressed Plants (D1)	
Algal Mat or Crust (B4)		Recent Iron Reductio				
Iron Deposits (B5)		Thin Muck Surface (C	27)	Shallow Aqu	iitard (D3)	
Inundation Visible on Aerial Imag	gery (B7)	Other (Explain in Ren	narks)	Microtopogra	aphic Relief (D4)	
Sparsely Vegetated Concave Su	ırface (B8)			FAC-Neutral	Test (D5)	
Field Observations:						
		Depth (inches):				
		Depth (inches):				
Saturation Present? Yes _ (includes capillary fringe)	No <u></u>	Depth (inches):	\	Wetland Hydrology Preser	nt? Yes No✓	
Describe Recorded Data (stream gau	uge, monitoring v	well, aerial photos, pre	vious inspection	ons), if available:		
Remarks:						
No primary or secondary	indicators	of wetland hvd	rology obs	served.		
The principle of decentions,						

**VEGETATION** – Use scientific names of plants.

VEGETATION – Use scientific names of plants	Sampling Point: wirb056 u				
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:	
1. Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC:	
2				Total Number of Dominant Species Across All Strata: 4.0 (B)	
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)	
5				That Are OBL, FACW, or FAC	
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
	<u>75.0</u> = Total Cover			OBL species <u>0.0</u> x 1 = <u>0.0</u>	
Sapling/Shrub Stratum (Plot size:)				FACW species 35.0 x 2 = 70.0	
1				FACULTURE	
2				FACU species <u>25.0</u> x 4 = <u>100.0</u> UPL species <u>0.0</u> x 5 = <u>0.0</u>	
3				Column Totals: 140.0 (A) 410.0 (B)	
4				Column Totals. 140.0 (A) 410.0 (B)	
5				Prevalence Index = B/A =	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
		= Total Co		✓ 2 - Dominance Test is >50%	
Herb Stratum (Plot size:5' )	0.0	_ 10tal 00	) V G I	3 - Prevalence Index is ≤3.0¹	
1. <u>Cornus alba</u>	25.0	Y	FACW	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)	
2. <u>Pteridium aquilinum</u>	10.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
3. Rubus pubescens	10.0	Y	FACW	1	
4. <u>Fragaria virginiana</u>		Ν	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. <u>Symphyotrichum lateriflorum</u>		N	FAC	Definitions of Vegetation Strata:	
6. Galium aparine		N	FACU	Definitions of Vegetation Strata.	
7. Pyrola elliptica			FACU	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8					
0				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regardless	
11.				of size, and woody plants less than 3.28 ft tall.	
				Woody vines – All woody vines greater than 3.28 ft in	
12		= Total Co		height.	
201	05.0	= Total Co	over		
Woody Vine Stratum (Plot size:)					
1					
2.		-			
3	<u> </u>			Hydrophytic	
4		-		Vegetation   Present?	
	0.0	= Total Co	over		
Remarks: (Include photo numbers here or on a separate Mix of mesic and facultative wetland sp		out the i	mmedia	te canopy is aspen.	

SOIL Sampling Point: wirb056\_u

Profile Desc	cription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	the absence of in	dicators.)	
Depth Matrix (inches) Color (moist) %		Color (moist)	x Features %	s Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
			Color (moist)		Type	LOC		Remarks	
0-6	10YR 2/2	100					_SCL_	·	
	-								
								<u> </u>	
								_	
		· ———		· <del></del>	-	-			
1 <sub>Tymax</sub> C. C.	oncentration, D=Dep	lotion DM	Doduced Metrix MC	Maakaa	L Cond Cr		2l costion, DI	=Pore Lining, M=Matrix.	
Hydric Soil		ietion, Rivi=	Reduced Matrix, MS	s=iviasked	Sand Gra	airis.		Problematic Hydric Soils <sup>3</sup> :	
Histosol			Polyvalue Belov	v Surface	(S8) ( <b>LRF</b>	RR,		(A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)	•	MLRA 149B)		` / `	,		e Redox (A16) ( <b>LRR K, L, R</b> )	
Black Hi	, ,	-	Thin Dark Surfa					Peat or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)	-	Loamy Mucky N			, L)		e (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surfac	- - (Δ11)	Loamy Gleyed I Depleted Matrix		.)		·	elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)	
-	ark Surface (A12)	C(ATT)	Redox Dark Sui					nese Masses (F12) (LRR K, L, R)	
	lucky Mineral (S1)	-	Depleted Dark S					loodplain Soils (F19) (MLRA 149B)	
Sandy G	Bleyed Matrix (S4)	-	Redox Depress	ions (F8)			Mesic Spod	ic (TA6) (MLRA 144A, 145, 149B)	
	Sandy Redox (S5)							Material (F21)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)						Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
Dark Su	mace (57) (LRR R, N	/ILKA 149B	)				Other (Expir	ain in Remarks)	
<sup>3</sup> Indicators o	f hydrophytic vegetat	tion and wet	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Restrictive	_ayer (if observed):								
Type: <u>cc</u>	bble								
Depth (inches): <u>6</u>							Hydric Soil Present? Yes No _✓		
Remarks:									
Unable to	o dig past six	inches.	Several areas	s exam	nined a	nd unal	ble to succes	sfully dig. No hydric soil	
indicators observed.									



wirb056\_u\_E



wirb056\_u\_S